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Transportation Needs and Programs Summary

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January 1981

An Urban Consortium Report

Urban
Consortium
for Technology Initiatives

I

URBAN CONSORTIUM FOR TECHNOLOGY INITIATIVES

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The Urban Consortium for Technology Initiatives was formed to pursue technological solutions to pressing urban problems. The Urban Consortium is a coalition of 37 major urban governments, 28 cities and 9 counties, with populations over 500,000. These 37 governments represent over 20% of the nation's population and have a combined purchasing power of over $25 billion.

Formed in 1974, the Urban Consortium represents a unified local government market for new technologies. The Consortium is organized to encourage public and private investment to develop new products or systems which will improve delivery of local public services and provide cost-effective solutions to urban problems. The Consortium also serves as a clearinghouse in the coordination and application of existing technology and information.

To achieve its goal, the Urban Consortium identifies the common needs of its members, establishes priorities, stimulates investment from Federal, private and other sources and then provides on-site technical assistance to assure that solutions will be applied. The work of the Consortium is focused through 10 task forces: Community and Economic Development; Criminal Justice; Environmental Services; Energy; Fire Safety and Disaster Preparedness; Health; Human Resources; Management, Finance and Personnel; Public Works and Public Utilities; and Transportation.

Public Technology, Inc. is the applied science and technology organization of the National League of Cities and the International City Management Association. It is a nonprofit, tax-exempt, public interest organization established in December 1971 by local governments and their public interest groups. Its purpose is to help local governments improve services and cut costs through practical use of applied science and technology. PTI sponsors the nation's largest local government cooperative research, development, and technology transfer program.

PTI's Board of Directors consists of the executive directors of the International City Management Association and the National League of Cities, plus city managers and elected officials from across the United States.

Transportation Needs and Programs Summary

January 1981

Final Report

Prepared by
PUBLIC TECHNOLOGY, INC.
1301 Pennsylvania Ave, N.W.
Washington, D.C. 20004

Secretariat to the
URBAN CONSORTIUM FOR TECHNOLOGY INITIATIVES

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PREFACE

This document identifies transportation research and product needs as identified by local government officials in the country's largest jurisdictions. It is the fourth such report developed by the Transportation Task Force of the Urban Consortium for Technology Initiatives. The first report, the Transportation Needs Summary published in 1976, listed 58 transportation needs. The second report, the Transportation Needs and Programs Summary, published in October 1978, listed 89 transportation needs and also included descriptions of selected local projects and innovations that addressed those needs. The third report, Transportation Needs and Programs Summary, published in January 1980, listed 106 transportation needs as well as programs addressing each need. The fourth report lists 141 transportation needs.

As in the earlier editions, the research and development needs were identified by the member jurisdictions of the Urban Consortium, comprising the nation's 28 largest cities and 9 major urban counties, all with populations over 500,000, through an extensive needs identification process. Although the listing should by no means be considered a complete identification of related on-going activities, it is hoped that an appropriate selection of local actions appears. In many cases these are supplemented by Federal and other programs that address the identified needs.

Thus, the purpose of this document is threefold: 1) To describe the need identification and screening process used by the Urban Consortium for Technology Initiatives; 2) To provide the Need Statement Abstracts for each of the needs; and 3) In the interest of information exchange, to provide brief descriptive and contact information regarding local, Federal, and other programs that address these needs.

Chapter 1 presents an overview of the needs selection process used by the Urban Consortium--focusing on the work of the Transportation Task Force--and discusses follow-up activities in priority needs areas. Chapter 2 contains the Need Statement Abstracts, each followed by descriptions and contact information for existing programs.

Supplementing this fourth report on transportation needs of Consortium jurisdictions is the fourth series of Information Bulletins addressing the needs established by the Task Force as being of greatest concern. The ten transportation needs covered by this fourth series of Information Bulletins include:

- Economic Impacts of Transportation Restraints.
- Parking and Traffic Enforcement.
- Pedestrian Safety.
- School Bus Use for Non-School Transportation.
- Street Management Information Systems.
- Taxicabs as Public Transit.
- Transportation Construction Management.
- Transportation Energy Contingency Planning.

- Transportation of Hazardous Materials.
- Transportation System Management, Air Quality, and Energy Conservation.

Several priority needs identified in the previous needs selections have been addressed by subsequent Transportation Task Force projects:

- To facilitate the provision of transportation services for elderly and handicapped people five products have been developed: Elderly and Handicapped Transportation: Local Government Approaches, Elderly and Handicapped Transportation: Chief Executive's Summary, Elderly and Handicapped Transportation: Planning Checklist, Elderly and Handicapped Transportation: Information Sourcebook, Elderly and Transportation: Eight Case Studies.

- To help improve Center City Circulation (with the objectives of downtown revitalization and economic development) several projects have been completed. A summary report on Center City Environment and Transportation: Local Government Solutions shows how 7 cities use transportation and pedestrian improvements as tools in downtown revitalization. A recently published report titled Center City Environment and Transportation: Transportation Innovations in Five European Cities discusses exemplary approaches to resolving traffic management problems common to cities with large numbers of automobiles. Another project, addressing the coordination of public transportation investments with real estate development, has culminated in two major national conferences-The Joint Development Marketplaces I and II. The second Marketplace held in Washington, DC, in July 1980, was attended by a total of over 500 people, including exhibitors from 36 cities and counties and representatives of private development and financial organizations.

- A series of documents relating to the need for Transportation Planning and Impact Forecasting Tools has been prepared: (1) A report for local officials describing computer transportation planning models supported by U.S. DOT, The Urban Transportation Planning System (UTPS): An Introduction for Management; (2) A report describing the options available to local agencies wishing to use computer transportation models, Computer Transportation Models for Local Government: Gaining Access to the Tools; (3) Two documents, one directed to local officials, the other to more technical program managers, describing new U.S. Census Bureau software for using census data, developing local geographic data bases, and computer mapping; (4) A series of case studies illustrating applications of UTPS by local agencies for short to medium range planning.

- To facilitate the dissemination of information of local experiences in Parking Management, a Technical Report on Parking Management has been prepared. This report describe the state-of-the-art in the United States.

- A Federal-Aid Urban System Conference was held in Baltimore in May, 1980 to provide information on the FAUS program and the obligation of FAUS funds.

- Five regional meetings on Taxicabs and Federal Programs and a National Conference on Taxicab Innovations: Services and Regulations were held during 1980. A handbook titled Taxicab and Federal Programs was published in conjunction with these sessions.

- A series of five regional Transportation System Management (TSM) meetings were held during the summer and fall of 1980 to provide local government officials, metropolitan planning organization representatives, transit managers, and state and Federal officials with the opportunity to learn from one another about exemplary TSM programs.

- To address the need for information on Transit Productivity a seminar on International Transit Performance Measurement was held in September 1980. The seminar included presentations on the state-of-the-art in France, Germany, and the United States. The seminar was cosponsored by the German Marshall Fund of the United States.

Task Force information dissemination and technology sharing concerns are currently addressed by two products-SMD Briefs and Transit Actions. SMD Briefs are short reports that provide up-to-date information about specific aspects of on-going projects of UMTA's Office of Service and Methods Demonstrations (SMD). Transit Actions cover the on-going projects of UMTA's Office of Transportation Management. Each Action provides timely information that will be especially useful to transit managers concerned with improving their transit system's efficiency and effectiveness.

The support of the Technology Sharing Division, Office of the Secretary; Federal Highway Administration; and Urban Mass Transportation Administration of the U.S. Department of Transportation has been invaluable in the work of the Transportation Task Force of the Urban Consortium for Technology Initiatives and its staff from Public Technology, Inc. The guidance offered by the Task Force members will continue to ensure that the work of the staff will meet the urgent needs identified by members of the Urban Consortium for Technology Initiatives.

This document has been prepared by the staff of Public Technology, Inc., (PTI) for the Transportation Task Force.

LIST OF ABBREVIATIONS

FAA - Federal Aviation Administration

FHWA - Federal Highway Administration

NHTSA - National Highway Traffic Safety Administration

OST - Office of the Secretary of Transportation

PTI - Public Technology, Inc.

RSPA - Research and Special Programs Administration

UC - Urban Consortium for Technology Initiatives

UMTA - Urban Mass Transportation Administration

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Chapter 1

THE NEEDS SELECTION PROCESS

This chapter describes the extensive needs identification and screening process conducted by the member cities and counties of the Urban Consortium for Technology Initiatives. The Urban Consortium pursues research and development (R & D) in many need areas; the focus here is on the identification and prioritization of transportation needs, under the guidance of the Urban Consortium's Transportation Task Force. The needs selection process of the National Cooperative Transit Research and Development Program is also discussed.

BACKGROUND

Through the Urban Consortium's process of needs identification, local government officials work cooperatively to identify and then focus on the priority R&D needs of their jurisdictions. In this way, the Consortium assures that resultant research and development efforts are directly responsive to existing or potential local governmental problems. Local participation in need identification also helps assure that successful solutions will be applied and used.

The first iteration of the needs process, occurring in fiscal year 1974-75, provided the basis for organization of the 9 task forces of the Urban Consortium. Member jurisdictions of the Consortium submitted a total of 1,131 Needs Statements, which were organized by the staff of Public Technology, Inc. (PTI) into major categories. Each of these categories--Community and Economic Development; Criminal Justice; Energy; Environmental Services; Fire Safety and Disaster Preparedness; Health and Human Resources; Management, Finance, and Personnel; Public Works and Utilities; and Transportation--then became the focus of attention for one of the task forces. The task force members were selected according to the interests expressed by the jurisdictions.

GENERAL PROCESS OF NEEDS IDENTIFICATION

The first iteration of the needs process resulted in the generation of a comprehensive set of need statements by Consortium members. Subsequent iterations involve review by the task forces of these initial needs, and preparation of new needs statements as required.

Each jurisdiction identifies its needs in different ways--some hold public meetings, some rely upon department heads, and some depend on key individuals in the chief executive's office. Jurisdictions devise their own approaches.

Urban Consortium members are asked to review the existing Needs Summary, to generate new needs statements where appropriate, and to submit a list of priority needs selected from among the old and new need statements. Priorities are certified by local jurisdiction top management.

The 9 task forces follow similar procedures in selecting the few high priority needs that should be addressed immediately. The basic features of the process--the background information provided and the evaluation criteria--are discussed in the next section. While that section focuses on work of the Transportation Task Force, the Need Statement Abstracts, Information Bulletins, and evaluation criteria are common to the work of all 9 task forces.

TRANSPORTATION NEEDS SELECTION PROCESS

The Transportation Task Force of the Urban Consortium was formally organized in August 1975 and currently is comprised of 16 representatives appointed by the Urban Consortium Steering Committee. Task Force members are the key actors in a continuing need identification and screening process.

The first annual needs selection process commenced when 94 needs were referred to the Task Force by the Urban Consortium. These needs were part of the 1,131 needs that were initially identified by the Urban Consortium. The 94 needs were reduced to 58 by PTI staff through consolidation of duplicative needs statements. These 58 needs were grouped into four catagories--Highways, Transportation System Management, Mass Transit, and Aviation--and included in the first Transportation Needs Summary. During 1976, 10 top priority needs were selected from the 58, and the first series of Information Bulletins was published.

The needs selection process is repeated annually. Each year the Task Force is asked to identify a series of needs. These may be newly identified needs or needs that have been identified in previous years but that continue to be of concern.

The needs identified by Task Force members are compiled by PTI staff and resubmitted to the Task Force. The Task Force then identifies the top priority needs. The following four criteria, common to all Consortium task forces, are used to determine priorities among the identified needs:

-- Commonality--the extent to which a need exists in many jurisdictions.

-- Magnitude--the importance, scope, and urgency of the need.

-- Community Impact--the extent to which solutions to the need will affect the citizens and community as a whole.

-- Financial Impact--the monetary effect (costs, savings, and revenues) that a solution to the need will have on a city or county.

The Task Force also determines how the priority needs should be addressed--whether with Information Bulletins, technical manuals, case study reports, workbooks, conferences, seminars, or management training sessions. Abstracts of each of the needs identified during the selection process are published in summary reports.

THE FOURTH ANNUAL NEEDS SELECTION PROCESSES

- In September 1979, the Transportation Task Force was asked to identify needs for the 1980 work program. In identifying their needs the Task Force was asked to review the 1977-1978 Transportation Needs and Program Summary and a list of needs that had been identified during the preceding year. A list of needs including both new needs and needs of continued significance from preceding years was generated.

- At its meeting on October 4-5, 1979 the Task Force reviewed this list and identified 8 priority needs for which Information Bulletins were to be written. Two additional priority needs were later identified for a total of 10 topics for Information Bulletins. The Task Force also identified 14 additional priority needs, 10 of which were retained from previous years. Top priority needs for which Information Bulletins were prepared are (in alphabetical order):

- Economic Impacts of Transportation Restraints.
- Parking and Traffic Enforcement.
- Pedestrian Safety.
- School Bus Use for Non-School Transportation.
- Street Management Information Systems.
- Taxicabs as Public Transit.
- Transportation Construction Management.
- Transportation Energy Contingency Planning.
- Transportation of Hazardous Materials.
- Transportation System Management, Air Quality, and Energy.

The general needs selection of the Transportation Task Force is common to all 9 Consortium task forces. Each task force is proceeding on its own schedule in this process. The Transportation Task Force, along with the other task forces, will continue their work as described below.

THE NEXT STEP

The Urban Consortium for Technology Initiatives continues to identify what the nation's largest cities and counties perceive as their most urgent research and development needs and problems. The Consortium has developed and implemented both a process and a structure for systematically addressing these major problems.

As funding is secured, the various task forces are proceeding with the following steps:

- Once the priorities are established in each functional area, governmental and private sources are encouraged to invest in developing solutions to the problems.
- User Requirements Committees, representing the range of potential users in local government, are established to guide the development of the technology to ensure that it will meet the specified need.
- As solutions to the problem or need are developed, these solutions are made available to the jurisdictions represented by the Urban Consortium as well as to other local governments with similar problems.

The Urban Consortium is helping to reverse the passive role of local governments as respondents to technological developments. Through the Urban Consortium, local governments are involved in an active process whereby they help shape technological solutions to their own problems.

NEEDS SELECTION AND THE NATIONAL COOPERATIVE TRANSIT RESEARCH AND DEVELOPMENT PROGRAM.

In addition to the needs selection process of the Transportation Task Force, PTI staff, on behalf of the Urban Consortium, is also participating in the cooperative research efforts, needs selection, and information dissemination efforts of the National Cooperative Transit Research and Development Program (NCTRP).

NCTRP was established to assist local public transportation agencies solve near-term public transportation problems through information dissemination and applied research. The research of NCTRP is guided by a Technical Steering Group composed of transit agencies and local government officials. The Technical Steering Group receives technical support from the American Public Transit Association, the Transportation Research Board, the Urban Mass Transportation Administration, and PTI. NCTRP is funded by the Urban Mass Transportation Administration.

There are two stages to NCTRP's needs selection process. Needs are solicited from transit operators, manufacturers, labor representatives, and local government officials. The needs and problems they submit are reviewed by the supporting organizations. PTI staff assists by identifying any existing or on-going research that is germane to the identified needs. If the problem submitters feel that this research does not adequately address the problem, a more detailed second stage problem statement can be submitted. PTI and APTA staff provide assistance in the preparation of these statements.

The second-stage problem statements are reviewed by the Technical Steering Group. From these problem statements top priority projects are selected for the Annual Work Program. Subcontracts are awarded for research projects addressing each of the priority needs.

NCTRP's 1980 Annual Program includes the following:

-- Transit Bus Operator Selection and Training for Dealing with Stress.

-- Improved Transit Bus Energy Efficiency and Productivity.

-- Optimum Bus and Car Design Features for Fire Safety.

-- Synthesis of Improved Transit Bus Interior Cleaning Equipment and Procedures.

-- Improvement in Electric Energy Usage.

-- Priority Treatment for Buses on Urban Streets.

-- Transit Passenger Security Case Studies.

-- Assessment of Experience with UMTA's Alternatives Analysis Process.

-- Transit Bus Improved Friction Brake Materials.

-- Effects of Federal Grant Requirements and Recommendations for Improvement.

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Chapter 2

NEED STATEMENT ABSTRACTS AND PROGRAM DESCRIPTIONS

The Need Statement Abstracts in this chapter provide a brief description of the needs identified by member jurisdictions of the Urban Consortium. A problem statement and suggested solution considerations are given for each need. The problem statement provides a specific definition of the need. The solution considerations reflect suggestions by member jurisdictions.

The Need Statement Abstracts begin on page 8. The numbering system used to index the needs does not represent their priority, but relates to the overall needs selection process of the Urban Consortium and is retained for reference purposes only.

Many of the Need Statement Abstracts are followed by descriptions of programs responsive to the stated need. Many of the local government program descriptions were submitted by Urban Consortium and other jurisdictions. Federal and other programs that might assist local governments in addressing expressed needs are also included. Contact information is provided in all cases.

PTI, under the auspices of the Transportation Task Force, will update the Transportation Needs and Program Summary annually. Local government representatives having questions or comments regarding this edition, or wishing to have programs within their jurisdictions included in future editions, should contact Gary Barrett, Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2424.

811-1/STREET FACILITIES INVENTORY

Problem Statement: It is very difficult to maintain manual records of traffic control devices, signs, lights, curbs, street furniture, and other street facilities. Data collection on both underground and aboveground facilities is a problem. A geographically-coded, computerized inventory of street facilities could be programmed to interface with a computerized maintenance system or budget forecasting system.

Solution Considerations: 1) Photologging techniques could be used to reduce labor requirements for setting up the system. 2) The system should be compatible with existing EDP systems. 3) Consideration should be given to making systems uniform for data comparability. 4) System output should be easily readable. 5) System should be easily updated. 6) Public Technology, Inc. is currently experimenting with a data structure called ANCER, which could greatly assist in the development of an inventory system. The data structure could be integrated with software developed by the Department of Transportation. A program to keep the information up-to-date could also be incorporated.

LOCAL PROGRAMS

Computer File of Structures: LOS ANGELES, CA maintains a computer data file with information on the 1,600 structures within city streets and rights-of-way. Reports facilitate maintenance scheduling, bridge designing, and responding to requests for information from the public and private sectors. Contact: Philip H. Skarin, Public Works Department, City Hall East, 200 North Main Street, Room 600, Los Angeles, CA 90012, 213/485-3871.

Computerized Traffic Control Devices Inventory: SAN JOSE, CA is photologging all signs, signals, and other traffic control devices. The computerized record will contain information on the type of device, installation date, manufacturer, and maintenance record. Deficiencies in the traffic control devices will be corrected before accidents and lawsuits occur. Contact: Ed Louis, Transportation-Operations Division, Department of Public Works, 441 Park Avenue, San Jose, CA 95113, 408/277-4711.

Photologging of Road System: PRINCE GEORGE'S COUNTY, MD has purchased equipment to conduct a photographic inventory of county-maintained roadways. Film will be catalogued and stored for eventual integration in a fully-automated data retrieval system. Expected benefits include 1) reduced number of field investigations, 2) quick response to problem locations, and 3) informational support at public hearings. Contact: P. Dale Coppage, Department of Public Works and Transportation, County Administration Building, Upper Marlboro, MD 20870, 301/952-4290.

Road Construction History: DADE COUNTY, FL keeps a record of all roadway construction projects in the county. The computer printout, updated annually, lists the street name, city in which constructed, type of construction, length and cost of the project, and completion date. Contact: Peter Waren, Department of Public Works, 909 S.E. First Avenue, Miami, FL 33131, 303/579-2702.

Street Inventory and Activity File: DENVER, CO maintains a computerized activity and inventory file for all streets and alleys for its 5-year need study, with emphasis on the following year's work program. Activties listed in the file include overlay, sealcoat, curb and gutter replacement, etc. The inventory is an itemized count, by block and intersection, including information on length and width of each block or intersection, class of streets based on traffic usage, type of surfacing, culverts, siphons, bus pads, inlets (if present), summary of cost required to bring street or alley up to standard, etc. This system provides quick answers to questions concerning particular streets. Contact: Bill Rohrs, Street Maintenance Division, Public Works, 5440 Roslyn, Denver, CO 303/575-3501.

Traffic Sign Inventory: DADE COUNTY, FL is undertaking a county-wide traffic sign inventory. The computerized inventory system will provide accurate, up-to-date, readily-available data, including sign history and location. Local officials anticipate better support for budget requests, more efficient response to citizen inquiries, and assistance in court cases. Contact: Kevin A. MacNaughton, Department of Traffic and Transportation, 8675 N.W. 53rd Street, Suite 201, Miami, FL 33166, 305/592-0350.

811-1/STREET FACILITIES INVENTORY
FEDERAL PROGRAMS

UMTA's Office of Planning Methods and Support researches, develops and disseminates analytical techniques and case studies which support this aspect of transportation planning. Of special interest is the capability for detailed network mapping and link-node identification. This can provide a systematic, updatable data base of network related facilities including an inventory of street maintenance and underground utilities. Generalized data selection, manipulation and summarization modules can assist in systemic evaluation of location-relocation impacts. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9271.

811-2/STREET MAINTENANCE FINANCIAL FORECAST

Problem Statement: The cost of street maintenance is increasing, while local financial resources grow scarce. There is a lack of information on the availability of resources over a 10-year period for street maintenance activities.

Solution Considerations: A methodology for preparing a 10-year financial resource forecast should be developed, which considers: 1) new and existing local sources of revenue, 2) potential for tax increases to support maintenance needs, and 3) Federal and State sources of revenue.

LOCAL PROGRAMS

Street Maintenance Financial Record: MILWAUKEE, WI maintains records of the cost of street repairs such as crackfilling, patching, sealing, and resurfacing. These records are used to better estimate future costs and manpower needs. Contact: Glen R. Anderson, Department of Public Works, Bureau of Street and Sewer Maintenance, Municipal Building, 841 North Broadway, Room 802, Milwaukee, WI 53202, 414/278-3437.

FEDERAL PROGRAMS

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811-3/STREET STANDARDS MAINTENANCE MANAGEMENT

Problem Statement: The cost of street maintenance is rising and in many cities maintenance activities are being curtailed somewhat. Increased efficiency through better management is needed.

Solution Considerations: Develop a process-oriented manual on street maintenance management, covering such subjects as equipment selection and deployment, and personnel management.

LOCAL PROGRAMS

Citizens' Service Request Reporting System: INDIANAPOLIS, IN has developed a new service request form and reporting system. A computer-based system provides work performance evaluation information, management reports on the geographical distribution of maintenance work of different types, and assistance in work scheduling. Contact: Eugene W. Waltz, Department of Transportation, 2460 City-County Building, Indianapolis, IN 46204, (317) 633-6195.

Maintenance Management System: PRINCE GEORGE'S COUNTY, MD has reduced manpower requirements through installation of a maintenance management system that assists in planning and budgeting for the annual road maintenance program. Standards of manpower, equipment, materials, and accomplishment are set for each task in an annual work plan. Periodic reports monitor achievement of established objectives. Contact: William E. Boyce, Public Works and Transportation, 8400 D'Arcy Road, Forestville, MD 20028, (301) 350-3000, x110.

Maintenance Management System: SAN JOSE, CA has developed a computerized system and adopted work standards and production goals, increasing production by 38%. Improved planning and scheduling capabilities have enabled the city to embark on a major chip seal program without personnel increases, substantially improving the condition of street surfaces. Contact: George McKissick, Public Works Department, 801 North 1st Street, San Jose, CA 95110, (408) 277-4347.

Street Resurfacing and Rehabilitation Inventory: DADE COUNTY, FL undertook an inventory of street resurfacing needs. Geocoded data on pavement width and condition were compiled using a computer to determine the required widening and resurfacing quantities and cost. Management reports provided information needed to develop a 10-year program for street resurfacing and rehabilitation. Contact: Henry Wardenga, Public Works Department, 909 S.E., First Avenue, Miami, FL 33131, (305) 579-2919.

FEDERAL PROGRAMS

FHWA's Implementation Division has many products and ongoing programs aimed at improving maintenance management, addressing subjects ranging from administrative and management procedures to specific maintenance activities such as snow removal, bituminous patching, and bridge maintenance. Contact: Chief, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9230.

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ADDITIONAL PROGRAMS

The Urban Technology System funded by the National Science Foundation through Public Technology, Inc. has documented a step-by-step procedure which allows a jurisdiction to determine and analyze its current street patching costs and to evaluate the impact of proposed changes in labor allocation, materials, and equipment. The benefits of this procedure are 1) in-house determination of current costs associated with street repair, 2) comparison of alternative modes of operation to determine costs, and 3) implementation of the most cost effective process of procedure. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2400.

811-4/UNDERSTREET UTILITIES COORDINATION

Problem Statement: There is a lack of coordination among public and private agencies responsible for understreet utilities systems and agencies responsible for street construction, expansion, and maintenance. Coordination would reduce utilities relocation costs, minimize damage to utilities distribution facilities, and maintain continuity of utilities service delivery when streets and roads were widened. There is also a need to explore the feasibility of common utility ducts. Private utilities and public subsurface facilities are often located in separate ducts under different sections of the same street, increasing the expense and disruption of repair activities.

Solution Considerations: Utility relocation options and associated costs must be evaluated. Ordinances, contractual arrangements, and service agreements must be written to accommodate all cost-effective alternatives for rerouting water-sewer-electric power lines, connections, meters, switching devices, and other installations. Potential savings and safety benefits of common utility ducts should be analyzed, and institutional barriers such as insurance problems dealt with.

LOCAL PROGRAMS

Coordinating Team: LOS ANGELES, CA has established a coordinating team of professional and clerical personnel under supervision of a civil engineer to provide three-phase notification of all improvement projects under contract or permit within the city. Preconstruction meetings are scheduled with contractor and utility personnel, scheduling and relocation problems are resolved, and troubleshooting service is provided during construction. Contact: D. J. McNeil, Utility & Estimating, Room 460, City Hall, 200 North Spring Street, Los Angeles, CA 90012, 213/485-3093.

811-4/UNDERSTREET UTILITIES COORDINATION

Interagency Substructure Committee: LOS ANGELES, CA is represented on a committee involving people from all governmental agencies, utilities, substructure operators, and organizations having jurisdiction, owning facilities, or working within public streets in greater Los Angeles. Activities of the 51-year-old committee include exchanging information about projects, developing substructures damage prevention programs, initiating or coordinating studies, and conducting workshops. A report on the field testing of substructure location devices will be available in July 1979. Contact: H.T. Harris, Los Angeles Substructure Committee, Room 460, City Hall, 200 North Spring Street, Los Angeles, CA 90012, 213/485-3471.

Utility Location and Coordination Policy: DALLAS, TX has reached a policy agreement with and among the various utiities to (1) establish standard zone assignments for the facilities of each utility (2) provide advance notice of installations (3) require notification of changes or deviations from plans and (4) provide guidelines for nonstandard street rights-of-way. Although the procedure requires a great deal of administrative time, conflicts have been avoided and utility installation accelerated. Contact: Thomas F. James, Public Utilities Department, 1500 Marilla Street, Room 7A South, Dallas, TX 75201, 214/670-3175.

FEDERAL PROGRAMS

FHWA's Implementation Divison has published a Manual of Improved Practice --FHWA # RD-75-9 (June 74)--that contains a useful article entitled, "Accommodation of Utility Plant Within the Rights-of-Way of Urban Streets and Highways." Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9230.

UMTA's Office of Planning Methods and Support: researches, develops and disseminates analytical techniques and case studies which support this aspect of transportation planning. Of special interest is the capability for detailed network mapping and linknode identification. This can provide a systematic, updatable data base of network related facilities including an inventory of street maintenance and underground utilities. Generalized data selection manipulation and summarization modules can assist in systemic evaluation of location-relocation impacts. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9271.

811-5/NON-FEDERAL STREET AND HIGHWAY FINANCING

Problem Statement: Federal funds account for only a small percentage of the total dollars spent on transportation construction, maintenance, and operation in the nation's cities. The bulk of urban transportation construction is funded by State and local governments and private developers. With public opinion shifting toward the lowering of local and State taxes and with transportation costs rising from inflation, an analytical forecast of non-Federal transportation funds is needed.

Solution Considerations: Various national associations and interest groups (e.g., Highway Users Federation, National League of Cities, American Association of State Highway and Transportation Officials) are examining possible solutions to this problem.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc. 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

811-6/SAFETY IN CONSTRUCTION AND MAINTENANCE ZONES

Problem Statement: Roadway construction and maintenance can create situations that are hazardous not only to the road crews but to motorists and pedestrians as well.

Solution Considerations: Guidelines should be developed for construction and maintenance supervisors that outline practices and procedures that will assure the safety of motorists, pedestrians, and road crews.

FEDERAL PROGRAMS

FHWA's Implementation Division has prepared a report titled Traffic Controls in Construction and Maintenance Zones. The two volume report contains planning, design, and implementation guidelines and useful information for the job site supervisor. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9230.

812-1/FLEXIBLE FEDERAL DESIGN STANDARDS FOR HIGHWAY IMPROVEMENTS

Problem Statement: Urban highway projects involving Federal funds are many times needlessly delayed and/or become more costly than necessary because of design requirements that may not be appropriate for a particular jurisdiction. Among these are the requirement for 12-foot traffic lanes, a 2-foot curb and gutter section, and land requirements for 30 feet of clear area from the edge of pavement to utility poles or other structures and facilities.

Solution Considerations: More flexible standards should consider the limited rights-of-way and generally lower speeds found in some localities. The accident, capacity, and stream flow characteristics of streets constructed to current and lesser standards should be evaluated. Current utility clearance requirements should be studied and revised guidelines established. Consideration of unusual local climatic conditions should be considered. Consideration should also be given to the feasibility of altering design standards to more efficiently accommodate smaller cars.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15) has demonstrated design projects available under Demonstration Projects No. 40, Highway Photomontage, and No. 30, Computerized Roadway Design System. Contact: Thomas O. Edick, FHWA, Region 15, 1000 North Glebe Road, Arlington, VA 22201, (703) 557-9070.

FHWA's Office of Engineering has organized committees to propose revisions to Federal design standards. Contact: David Phillips, HNG-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0317.

ADDITIONAL PROGRAMS

Design Standards Revision: A revised version of the American Association of State Highway and Transportation Official's Design Standards is due to be released soon. This could have a significant impact on the flexibility of design standards particularly in urban areas. Contact: AASHTO, 444 North Capital Street, Washington, DC 20001, (202) 624-5800.

812-2/STANDARDIZED SPECIFICATIONS FOR STREET CONSTRUCTION

Problem Statement: In a typical large metropolitan area, each jurisdiction has its own specifications for construction of streets and the closely-related storm sewers and utilities. Differences in interpretation among contractors and jurisdictional staff cause higher prices, shutdowns, and, in some cases, poor workmanship.

Solution Considerations: Region-wide standardization of construction specifications would 1) allow any contractor in a region to bid on any job in that region with a full understanding of the kind of work expected, 2) bring out lower prices due to (a) increased competition, (b) reductions in learning costs, and (c) volume buying of standard materials, and 3) reduce downtime and improve quality control due to a simplification of construction inspection training.

LOCAL PROGRAMS

Standard Specifications for Public Works Construction: LOS ANGELES, CA is one of more than 140 cities, counties, and other agencies in Southern California that have adopted a uniform set of specifications promulgated by the Joint Cooperative Committee of the Southern California Chapter of the American Public Works Association and Associated General Contractors of California. Contact: Clifford M. Albright, Bureau of Engineering, Room 900, City Hall, 200 N. Spring Street, Los Angeles, CA 90012, 213/485-3073.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15) has a demonstration project available for specification improvements under the Quality Assurance Program. These projects are Demonstration Projects No. 2, Improved Quality Assurance Programs, and No. 42, Highway Quality Assurance--Process Control and Acceptance Plan. Contact: Thomas O. Edick, FHWA, Region 15, 1000 North Glebe Road, Arlington, VA 22201, 703/557-9070.

812-3/STORM WATER RUNOFF REQUIREMENTS

Problem Statement: As a result of existing land use policies, streets in some cities carry large amounts of storm water. The added costs of handling runoff from private development average about 30% of street paving costs and can run as high as 100%.

Solution Considerations: 1) Develop a model ordinance requiring that storm runoff from new development or redevelopment be no greater than if the property were undeveloped. 2) Develop more porous paving materials to slow down the runoff from parking lots and - streets. This would also help prevent skids.

LOCAL PROGRAMS

Erosion Control of Drainage Systems: JACKSONVILLE, FL ditches susceptible to erosion are covered with wire mesh and shot with minimum thickness gunite. Minimum ditch preparation is done in order to maintain or retain natural contours. In areas where work has been done maintenance was reduced to near zero and citizen reaction was very favorable. Contact: S. K. Nodland, Street and Highways Division, City of Jacksonville, Fl 32202, 904/633-3630.

Storm Inlet Redesign: MILWAUKEE, WI utilizes a new storm inlet frame and grating system that provides increased hydraulic capacity at decreased cost and with minimum intrusion beyond the gutter into the pavement area. The new storm inlets also provide easier pavement maintenance (particularly surface planing) and increased safety for bicyclists. Contact: Edwin J. Laszewski, Public Works Department, Municipal Building, Room 612, 841 N. Broadway, Milwaukee, WI 53202, 414/278-2400.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15) has demonstration projects for skid measurements. They include Demonstration Projects No. 10, Improved Skid Resistant Pavements; No. 4, Measurement of Pavement Skid Resistance for Safety and Maintenance Operations; and No. 50, Sprinkle Treatment. Contact: Thomas O. Edick, FHWA, Region 15, 1000 North Glebe Road, Arlington, VA 22201, 703/557-9070.

FHWA's Implementation Division has 2 recently published manuals addressing this need. The first deals with urban highway storm drainage (December 1978) and the second deals with infiltration drainage design for highways (1979). Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street. S.W., Washington, DC 20590, 202/ 426-9230.

813-1/ASPHALT REPAIR AND SURFACE TREATMENTS

Problem Statement: Rising oil prices have driven up the cost of asphalt paving and patching. This has resulted in lower maintenance levels due to budget constraints and has increased local officials' interest in recycling asphalt materials when resurfacing streets. Also, traditional overlay resurfacing methods are limited by curb heights, manholes, drainage inlets, overhead clearances, and other fixed objects in the right-of-way. Existing recycling techniques are difficult to use in urban areas because of their side effects--noise, dust, fumes, and traffic disruption. Environmentally sound pavement repair and preservation technologies are needed.

Solution Considerations: 1) A review of the state-of-the-art and state-of-the-practice in asphalt paving, patching, removal, and hot and cold recycling. 2) Development of products to preserve and renew asphalt paving material, including (a) a seal coat applied at time of placement to restore volatiles, (b) a seal coat to eliminate and inhibit cracking, and (c) a product which could be mixed with a scarified surface to restore pavement life. 3) Development of a technology that will reduce the air and noise pollution problems of pavement removal and recycling. 4) Development of specification guidelines that provide economic incentives to contractors for recycling.

LOCAL PROGRAMS

Fiber Matting: SAN JOSE, CA uses a commercially available plastic matting product (PETROMAT) developed by Phillips Petroleum to substitute for the removal and replacement of broken asphalt and base. This product has lowered repair costs from $1.50 to $.13 per square foot, allowing for a production increase of 480%. Contact: Walter Bettramo, Public Works Department, 801 North First Street, Room 320, San Jose, CA 95110, 408/277-4569.

Reclaimed Chips and Seal Coat Program: DENVER, CO saved $8,000 by recycling 2,000 tons of chip seal. After an area has been sealed, Denver swept the area for excess chips. By running these chips through an asphalt plant about 80% were recycled. Sylvax U.P.M. was added to make 427 tons of cold mix. The city hopes eventually to cut the cost of asphalt paving manufacture by 25% through recycling. Contact: Bill Rohrs, Street Maintenance Division-Public Works, 5440 Roslyn, Denver, CO, 303/575-3501.

FEDERAL PROGRAMS

FHWA's Implementation Division and Demonstration Projects Division (Region 15) have numerous programs and demonstration opportunities for asphalt repair. The demonstration projects for asphalt recycling, which include sites for use of products to preserve and regenerate asphalt paving and scarifying or removal of existing surfaces to restore pavement life, are Demonstration Projects No. 39, Recycling Asphalt Pavements, and No. 37, Discarded Tires in Highway Construction. Demonstration Project No. 39 presents the latest information on the state-of-the-art on surface, cold and hot asphalt recycling. A minor amount of incentive funding is available for construction and evaluation of each technique. Contact: Robert Betsold, , HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9230 or Thomas O. Edick, FHWA, Region 15, 1000 North Glebe Road Arlington, VA 22201, 703/557-9070.

ADDITIONAL PROGRAMS

Public Technology, Inc.'s Urban Technology System (UTS) has conducted field tests using a cold patch material called Sylvax. Sylvax is a commercially available mix that can be stockpiled, used in cold, wet weather, and requires no special preparation. Sylvax has saved Jersey City $9,000 in one year. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: UTS Staff, 202/626-2400.

813-2/ASPHALT REMOVAL

Problem Statement: Air pollution requirements have eliminated the use of asphalt surface heaters for street repaving. There is a need for an economical, efficient, clean method to remove the top asphalt layer prior to street surfacing.

Solution Considerations: 1) The cost should not exceed present (1/23/75) cost of $.08 per square foot for removal, and $32,000 for equipment. 2) The efficiency should be comparable to present heater hoods, which are 8' x 12' and move 3 to 10 feet per minute. 3) The method should conform to air quality and Occupational Safety and Health Administration standards. 4) A new chemically removable paving material could be developed.

LOCAL PROGRAMS

Cold Planing: LOS ANGELES, CA used planing equipment to chip away the wearing surface of asphalt concrete pavement. Costs compare favorably with other methods and available equipment complies with noise and dust pollution requirements. Contact: Clifford M. Albright, Bureau of Engineering, Room 900, City Hall, 200 North Spring Street, Los Angeles, CA 90012, 213/485-3073.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15) has a demonstration project of field studies conducted on the operational capabilities of many different types and sizes of pavement planers under Demonstration Project No. 23, Production-Cost Study Program. These studies are conducted to evaluate the performance and productivity of planers as well as to categorize the many types of delays that occur in the course of operations. Contact: Thomas O. Edick, FHWA, Region 15, 1000 North Glebe Road, Arlington, VA 22201, 703/557-9070.

813-3/CONCRETE REPAIR AND SURFACE TREATMENTS

Problem Statement: Petroleum prices have skyrocketed, making petroleum-based repair materials quite expensive. Repair materials also take considerable time to prepare and set up. Thin bituminous overlays over aging concrete pavements are a desirable method of repair, but have generally yielded unsatisfactory results, breaking up in the first few years.

Solution Considerations: 1) A review of asphalt repair materials, considering costs, load strength, setup time, environmental acceptability, ease of storage, and preparation requirements. 2) Cost-effective bituminous overlays should provide a comfortable riding surface, and require little maintenance for a 5-year period. Improved overlay technology could result from (a) experiments with high-penetration asphalts in the mix (up to 200-300 penetration) and varying pavement thicknesses and (b) experiments with placement of a very thin leveling course preceding thin wearing course overlay, and use of tack coats to insure bonding reliability.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15) has a demonstration project for bridge deck repair and maintenance techniques under Demonstration Project No. 51. The project utilizes many different methods of bridge repair. Contact: Thomas O. Edick, FHWA, Region 15, 1000 North Glebe Road, Arlington, VA 22201, 703/557-9070.

813-4/CONCRETE REMOVAL

Problem Statement: The present method of removing concrete for repaving is cumbersome for use in small areas.

Solution Considerations: An efficient device to disintegrate the pavement without excessive noise should 1) not exceed allowable decibel ratings and meet Occupational Safety and Health Administration standards, 2) be easily portable and operable by one individual 3) be pneumatic or electrically powered. Costs of its use should not exceed present (1/23/75) cost of $.35 per square foot, including labor and equipment, for disintegration and haul-away.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15) has a demonstration project for concrete recycling techniques for the reuse of concrete as aggregates. Many methods of concrete removal are demonstrated. Contact: Thomas O. Edick, FHWA, Region 15, 1000 North Glebe Road, Arlington, VA 22201, 703/557-9070.

813-5/CONCRETE STRENGTH MEASUREMENT

Problem Statement: There is a need for a testing procedure or device to determine concrete strength immediately after pouring.

Solution Considerations: 1) The test must be fast enough so that results are obtained before drying is complete. 2) The test should be usable in all types of weather.

FEDERAL PROGRAMS

FHWA's Implementation Division has published a Nuclear Cement Content Gage Instruction Manual (FHWA RD-75-63, May, 1975). Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9230.

813-6/ANTI-SKID PAVING MATERIAL

Problem Statement: Skidding vehicles are a serious safety problem. An anti-skid paving material is one solution.

Solution Considerations: 1) The material should be durable enough to withstand heavy traffic. 2) The material should be low-cost for large-scale deployment, but if expensive, should be used only at intersections.

LOCAL PROGRAMS

Skid Resistance of Pavement Marking Material: ALBANY, NY conducted skid resistance tests of different pavement marking materials in both wet and dry materials. The resulting information provides some insight into the problem of providing high-skid-resistant pavement marking materials for urban intersections. Contact: Dennis M. O'Malley, Albany County Traffic Safety Board, 891 Watervliet-Shaker Road, Albany, NY 12205, 518/869-5306.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15) has several demonstrations pointed at anti-skid paving materials and measurements. They are Demonstration Treatment (Asphalt Pavements). Contact: Thomas O. Edick, FHWA, Region 15, 1000 North Glebe Road, Arlington, VA 22201, 703/557-9070.

813-7/NOISE REDUCTION THROUGH IMPROVED PAVEMENT MATERIALS AND DESIGN

Problem Statement: Increased tire noise levels result from wear on asphalt and concrete pavements due to the exposure of aggregate on the pavement surface.

Solution Considerations: 1) More frequent resurfacing. 2) Different sized aggregate near the surface. 3) Improved wearing properties of asphalt or concrete paving materials. 4) Research as to which surface texture and surface properties yield the lowest noise levels under traffic loads at varying speeds. 5) Comparison of the noise abatement capabilities of pavement overlays and the increasing noise as vehicular speed increases.

LOCAL PROGRAMS

Low-Speed Urban Streets: WASHINGTON, DC is testing the effectiveness of asphalt overlays in reducing noise levels on three low-speed urban streets. Contact: Tom Downs, Director, DC Department of Transportation, 415 12th Street, N.W., Washington, DC 20004, (202) 727-5847.

FEDERAL PROGRAMS

FHWA's Implementation Division has an Implementation package entitled Porous Friction Courses and Roadway Surface Noise (package number 74-11). Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9230.

813-8/CRACKFILLING MATERIAL

Problem Statement: Present crackfilling techniques utilize a latex heated with propane fuel. The cost of the fuel and the latex is increasing each year. Time is lost due to injuries to employees handling the hot liquid.

Soution Considerations: 1) Research and development of an effective cold-liquid crackfilling material. 2) A method should also be developed to determine the cost effectiveness of crackfilling on various pavement types.

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813 Highways--Materials and Construction

813-9/SOIL STABILIZERS

Problem Statement: At present, it is necessary to rely on publications and manufacturers' representatives for information on soil-stabilizing agents for low-cost surfaced roads. A publication summarizing current published information and indicating the kind of agent appropriate for particular soil types, with rough cost data, would be useful to local officials. Particular attention should be given to use of indigenous materials as a subbase and to improved dirt road stabilization material.

Solution Considerations: 1) Thorough research should be done to evaluate present road specifications and stabilizer performance. 2) Evaluation of stabilizers should be done by use testing.

813-10/SOIL COMPACTION TECHNIQUES

Problem Statement: Problems are caused by the settlement of backfill materials used in the excavated or fill area next to bridge abutments and retaining and foundation walls. Settlement still occurs, even with the use of the best compaction techniques and recommended backfill material presently available. A floating slab placed on this fill, therefore, also settles. The resulting differential in elevation between a supported slab and a slab placed on fill causes an undesirable, and in some instances, dangerous condition for both vehicles and pedestrians.

Solution Considerations: A new compaction technique should reduce settlement so that roadways maintain smooth riding surfaces for motor vehicles and that sidewalks maintain smooth surfaces for the ease and safety of pedestrians.

LOCAL PROGRAMS

Erosion Control of Drainage Systems: JACKSONVILLE, FL. Ditches susceptible to erosion are covered with wire mesh and shot with minimum thickness gunite. Minimum ditch preparation is done in order to maintain or retain natural contours. Contact: S. K. Nodland, Streets and Highways Division, City Hall, Room 801, 202 Easy Bay Street, Jacksonville, FL 32202, 904/633-3630.

813-11/NONCORRODING BRIDGE MATERIALS

Problem Statement: There is a fairly rapid deterioration of steel and concrete bridges due to moisture, salting, and freeze-thaw cycles. The problem is significant nationwide, with the cost of repair and replacement of bridges quite high.

Solution Considerations: 1) A national investigation into the severity of the problem is required. 2) The solution should not require replacing the deck or closing the bridge to traffic for long periods. 3) An epoxy or sealer for concrete and protective paint for exposed steel may be a solution.

LOCAL PROGRAMS

Bridge Sealing and Repair: INDIANAPOLIS, IN has established a yearly preventive maintenance program to prevent deterioration caused by salt and moisture. Work involves laying an epoxy coated membrane over bridge decks. Application is fast and easy, resulting in one to four years of protection. The material does deteriorate in extreme weather. Contact: Ralph Muehlebein, Department of Transportation, 2321 City-County Building, Indianapolis, IN 46204, 317/633-2891.

Bridge and Structure Restoration: LOS ANGELES, CA has an ongoing program of restoration of aged and deteriorated concrete bridges using epoxy injection of cracks, replacing damaged concrete, and surface sealing and refinishing to restore structural and aesthetic qualities to desirable levels. Contact: Phillip H. Skarin, Department of Public Works, 200 North Main Street, Room 600, Los Angeles, CA 90012, 213/485-3871.

Double Protection for Bridge Decks: WASHINGTON, DC employs two measures to increase bridge life: 1) deck sealing and 2) steel protective coating. A threefold increase in savings through extended bridge life is expected. Contact: W. J. Cohen, Department of Transportation, 415 12th Street, N.W., Washington, DC 20004, 202/727-5752.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15) has demonstrations involving bridge repair and various techniques for protecting the concrete and bridge reinforcing steel therein. They are Demonstration Projects No. 15, Steel Corrosion Detection Device; No. 34, Cathodic Protection for Reinforced Concrete Bridge Decks; No. 49, Internally Sealed Concrete (wax beads); and No. 51, Bridge Deck Repair and Maintenance Techniques. Contact: Thomas O. Edick, FHWA, Region 15, 1000 North Glebe Road, Arlington, VA 22201, 703/557-9070.

813-12/EXPANSION JOINTS IN CONCRETE PAVEMENTS ADJACENT TO BRIDGES

Problem Statement: The expansion of concrete pavements has caused stress and damage to some bridges. In some instances, it has been necessary to provide relief joints immediately adjacent to a bridge to prevent further damage.

Solution Considerations: Recommendations should include 1) time of placement, 2) where and how expansion joints should be placed, 3) ease of construction and pavement ride quality, and 4) comparability of costs with present methods of construction.

813 Highways--Materials and Construction

813-13/IMPROVED RAILROAD GRADE CROSSINGS

Problem Statement: There are thousands of rough, substandard railroad crossings presenting serious safety hazards and damaging vehicle tires and wheels, wheel alignment, shock absorbers, and steering mechanisms. Maintenance of the crossings is costly and difficult because of the repeated shock loads from rail traffic and truck traffic.

Solution Considerations: 1) Review the state-of-the-art and evaluate the effectiveness of patented materials and processes. 2) Develop specifications for track preparation and develop recommendations for surface cover design and materials based on light, medium, and heavy traffic volumes, to ensure a smooth ride. 3) Estimate life expectancy, comparative capital cost, and expected yearly maintenance cost.

STATE PROGRAMS

New Repair Methods: The Rhode Island State Department of Transportation has developed a process for tripling the useful life of a grade crossing. Two and a half-inch thick rubber pads are placed between the rails, a new method of preparing the track's base cuts down frost heaves, the tracks are welded together to produce a continuous rail, and the crossing area is replaced and resurfaced. Average cost per crossing is $78,000. Contact: Stan Chorney, Department of Transportation, Room 237, State Office Building, Providence, RI 02093, 401/277-2086.

814-1/ALTERNATIVES TO PRESENT PAINTS

Problem Statement: Present traffic paints require a drying period and thus the placement of traffic cones with concomitant traffic disruption. Paint on airport runways requires both mixing and thinning and absorbs contaminants. Both roadways and runways require frequent repainting.

Solution Consideration: Paint should 1) dry on contact (15 minutes or less), 2) meet standard paint specifications and be available to the open market, 3) be sprayable at temperatures from 40 degrees to 110 degrees Fahrenheit, 4) work on asphalt and concrete, and 5) not need complicated mixing and thinning. Molecularly bonded paints need to be developed, and evaluated for durability and ease of removal.

FEDERAL PROGRAMS

FHWA's Implementation Division has reports, movies, and Implementation Packages in this area. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9230.

814-2/INCREASED LANE LINE REFLECTIVITY

Problem Statement: All roadway lane lines tend to blend in with the surface of wet pavement in the dark. This constitutes a safety hazard.

Solution Considerations: A durable pavement marking with increased reflectivity, particularly under dark, wet conditions, is needed.

LOCAL PROGRAMS

Permanent Pavement Marking: DADE COUNTY, FL uses a long-life (usually thermo-plastic) marking material to increase the intervals between pavement remarking. The material is applied with sufficient beads to provide reflectivity through the useful life of the material. Contact: Kevin A. MacNaughton, Department of Traffic and Transportation, 8675 N.W. 53rd Street, Suite 201, Miami, FL 33166, 305/592-0350.

FEDERAL PROGRAMS

FHWA's Implementation Division has reports, movies, and Implementation Packages in this area. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9230.

814-3/TRAFFIC PAINT REMOVAL

Problem Statement: It is sometimes necessary to remove existing traffic striping painted on roadway surfaces. The present method of covering it with black paint is problematic because it often wears away or becomes glossy.

Solution Considerations: 1) A chemical that will dissolve paint but not asphalt. 2) A cover paint that does not wear off easily.

LOCAL PROGRAMS

Low Cost Grinders: SAN JOSE, CA has been experimenting with large, inexpensive grinders to remove traffic paint. These grinders do not create the noise and dust problems associated with sandblasters. The grinding method increased production from 300 square feet a day for a 3-member crew to 530 for a 3-member and 430 for a 2-member crew. **Contact:** Domini Scaglione, Public Works Department, 801 North 1st Street, San Jose, CA 95110, 408/277-4691.

FEDERAL PROGRAMS

FHWA's Implementation Division has reports, movies, and Implementation Packages in this area. Implementation Package number 77-16 (June, 1977) describes the design, operations, and maintenance of two devices that remove paint stripes by high temperature burning. **Contact:** Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9230.

814-4/CURB, GUTTER, AND SIDEWALK REPAIR

Problem Statement: At present, a sidewalk, curb, or gutter can be repaired only by removing the entire area around the broken section and replacing it.

Solution Considerations: 1) Repair methods should be economically feasible. 2) Repair methods should set up quickly to minimize traffic disruption.

LOCAL PROGRAMS

Concrete Repair Inventory System: PRINCE GEORGE'S COUNTY, MD is developing a computerized system that will maintain data on all concrete sidewalks, curbs, gutters, and driveways needing repair, identified by street and address. The system will provide for the systematic updating of repair needs and will identify those needs resulting from poor utility construction. Contact: William E. Boyce, Department of Public Works and Transportation, 8400 D'Arcy Road, Forestville, MD 20028, 301/350-3000, x110.

814-5/SNOW REMOVAL AND DEICING ALTERNATIVES

Problem Statement: The use of deicing chemicals has become standard practice to assure a bare pavement. The side effects are, however, costly in terms of the damage done to roadways and bridges, as well as to motor vehicles. The effects on ecological systems are also becoming a concern.

Solution Consideration: Storage and spreading practices should be modified and improved. Substitute anti-skid and deicing materials are needed. Bridge deck sealers may be a solution, but perhaps the use of chemicals on bridges should be eliminated.

FEDERAL PROGRAMS

FHWA's Implementation Division has programs in this area. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-9230.

ADDITIONAL PROGRAMS

The Urban Technology System, funded by the National Science Foundation through Public Technology, Inc., has developed a "wetted salt" process. Ordinary road salt is prewetted with liquid chloride solution in the ratio of 8 to 10 gallons per ton of salt. The liquid calcium chloride has the effect of creating an instant brine regardless of air temperature. All the particles work, cutting rapidly through to the road surface and breaking the bond between the road surface and the ice layer. Implementation requires two items: a storage tank for calcium chloride and a dispensing system for application. The benefits of liquid salt are: 1) within 30 to 40 minutes after application of the mixture, ice or packed snow can be removed by squeegee action, even at below-zero temperatures, 2) once the bond to the road surface is broken, it stays broken for a period of time lasting up to several days under ideal conditions, eliminating resalting, 3) treated salt particles are more effective than dry salt particles and tend to stick immediately where applied; thus salt requirements are cut

30 to 50%, 4) use of wetted salt decreases deleterious effects on road surfaces and vehicles and adverse environmental effects, and 5) the reduced cost of salt more than offsets the small additional cost of calcium chloride. Contact: Public Technology, Inc., 1301 Pennsylvania, Ave., N.W. Washington, DC 20004 Attention: UTS Staff, 202/626-2400.

814-6/LOCATING UNDERGROUND UTILITIES

Problem Statement: In most instances, roadway improvement and maintenance projects require information on exact locations and depth of underground utility conduits. Present procedures require early notification and lead time to permit the location of these facilities by the owners.

Solution Considerations: Research and the development of a rapid and reliable method for locating and determining the depth of underground conduit and pipes are needed.

LOCAL PROGRAMS

One-call Center: LOS ANGELES, CA uses a nonprofit utility location information service for the Southern California area. The service has WATS lines for incoming calls and direct teletype links to their subscribing members to advise them quickly of proposed excavation near their facilities. Owners of affected utilities respond within 48 hours directly to the excavator. Damages to utility plants from dig-ins have been reduced 20% to 40%. Contact: Billy Schubert, Bureau of Engineering , Room 890, City Hall 200, North Spring Street, Los Angeles, CA 90012, 213/485-3483.

Underground Service Alert: SAN JOSE, CA ascertains the location of existing utility conduits by calling U.S.A. (Underground Service Alert), a commercial venture--telephone number 800/642-0123. A research service for investigating utility installation permits can also be utilized. Contact: Tomas Boardman, Department of Public Works, 801 North First Street, San Jose, CA 95110, 408/277-4681.

ADDITIONAL PROGRAMS

Public Technology, Inc., is working with Microwave Associates, Inc., to demonstrate and manufacture an all purpose pipe locator called Terrascan for local government use. This device can be operated by one person and is designed for use by public works, and utility field crews. Terrascan enables public works and utility crews to locate accurately buried utility lines prior to excavation work or for mapping purposes. It indirectly helps to reduce third-party accidental damage of buried utilities and improves safety for both excavation workers and the general public. Contact: Public Technology, Inc., 1301 Pennsylvania Ave., N.W., Washington, DC 20004 Attention: Terrascan, 202/626-2400.

814-7/PAVEMENT VOID DETECTION

Problem Statement: Voids beneath roadway pavements represent a hazard to vehicular traffic. In most instances, a portion of the roadway collapses before the void is detected.

Solution Consideration: Research and the development of a new technique for determining the location, size, and depth of voids and subgrade settlements are needed. The technique should involve a minimum of pavement damage.

814-8/VANDAL-RESISTANT SIGN MATERIALS

Problem Statement: Defacing of signs, usually with spray paint or stickers, reduces the effectiveness of traffic signs and repairs are costly. Removing paint or stickers usually destroys the reflectivity of signs. A solution to this problem might apply to transit vehicles and building walls.

Solution Consideration: 1) Development of materials to which spray paint and stickers will not adhere. 2) Development of materials that are not damaged by paint remover or adhesive solvent.

LOCAL PROGRAMS

Pedestrian Signal Relocation: BALTIMORE, MD has embarked on a program to elevate pedestrian signals to combat increased vandalism. All pedestrian signals are being raised from 7 to 11 feet above the sidewalk surface. Vandalism is down approximately 95% at all raised signal locations. There has been no negative public reaction. Contact: Norbert C. Nitsch, Jr., Department of Transit and Traffic, 414 North Calvert Street, Baltimore, MD 21202, 301/396-3040.

BEST DOCUMENT AVAILABLE

821-1/VEHICLE DETECTION DEVICES

Problem Statement: Current methods for installing and maintaining traffic sensor loops require road cutting and refilling and do not provide sufficient protection for wires. Fault-finding mechanisms are cumbersome and expensive to operate.

Solution Considerations: The system should 1) provide mechanical electrical protection from damaging forces, 2) be economical to install, 3) be modularly designed to accommodate various loop configurations, ease location of faults, and ease partial repair, and 4) maintain the inductive quality of the loop system.

LOCAL PROGRAMS

Detector Loop Splicing Manual: DADE COUNTY, FL has developed a detailed procedure to locate faults and splice loop wire. A published manual is available. Contact: Carlos A. Muller, Department of Traffic and Transportation, 8675 N.W. 53rd Street, Suite 201, Miami, FL 33166, 305/592-0350.

Traffic Control Signal Design: PRINCE GEORGE'S COUNTY, MD has developed new specifications for a Long Magnetic Loop Detector. This loop is designed to improve the detection sensitivity for bicycles and motorcycles and to be compatible with new, self-tuning loop detector amplifiers. It has been successfully field-tested. Contact: John C. Rice, Department of Public Works, County Administration Building, Upper Marlboro, MD 20870, 301/952-4290.

FEDERAL PROGRAMS

FHWA's Implementation Division has prepared an Implementation Package (Number 76-2, January, 1976) that describes the basic theory, design applications, testing, and installation procedures for inductive loop vehicle detectors. The package is based on work by the City of Los Angeles. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-9230.

821-1/VEHICLE DETECTION DEVICES

California Institute of Technology's Jet Propulsion Laboratory under contract to FHWA is developing a vehicle detector that employs visual sensing to identity the dynamic movements of individual and collective groups of vehicles. The potential seems to exist for yielding directly all parameters of traffic movement. Traffic parameters of a very limited nature can only be deduced with the use of contemporary point measurement vehicle detectors. The use of this new device in concert with traffic control systems or freeway monitoring and control systems could expedite or optimize traffic movement of streets and freeways. Contact: David Humphries, California Institute of Technology's Jet Propulsion Laboratory, MS 510-250, 4800 Oak Grove Drive, Pasadena, CA 91103, 213/577-9170.

821-2/TRAFFIC SIGNALIZATION SYSTEM DESIGN AND MAINTENANCE

Problem Statement: Downtown business districts, with their closely spaced grid street patterns, pedestrian traffic, and large number of signalized intersections, present special problems to the traffic engineer concerned with accommodating through traffic, cars entering and leaving parking garages, delivery vehicles, and pedestrians. Software for various traffic flow approaches exist, but none seems to address the full range of demands for mobility in downtown areas.

Solution Considerations: 1) Performance measures should be developed that consider the objectives of the total transportation system. 2) Techniques should be developed that allow signal control systems to be managed so that they accomplish objectives for traffic movement of all kinds. 3) The management of existing software and hardware should be improved.

LOCAL PROGRAMS

CBD Computerized Signal System: COLUMBUS, OH has installed a CBD Signal System using a digital computer. The system has 92 signals in grid pattern and 228 vehicle detectors. It also includes 7 closed-circuit TV cameras for surveillance. The system, completed in November 1975 under the Federal TOPICS program, responds to traffic conditions or operator command. Stops and delays have been reduced by about 20%. Contact: James V. Musick, Traffic Engineering Division, 50 W. Gay Street, Columbus, OH 43215, (614) 222-7790.

Northland Area Signalization Demonstration Project: COLUMBUS, OH has begun installation of a second computerized signal system. The new system is approximately 9 miles from the CBD and has 38 intersections and 200 detectors. The system is scheduled for completion by November 1979 and is on schedule at this time. Financing is under the FHWA Signalization Demonstration Program (100% Federal). Software is a modified and enhanced version of the CBD software which was based on UTCS. One software package will operate both systems. Contact: James Musick, Traffic Engineering Division, 50 W. Gay Street, Columbus, OH 43215, (614) 222--7790.

FEDERAL PROGRAMS

FHWA's Traffic Control Systems Division under Title 23, United States Code Sections 101 and 120 (d), Code of Federal Regulations 655D and 655F, provides for construction, rehabilitation, or reconstruction of traffic signal displays, intersection controls and/or systems. Traffic control signalization projects can be funded at a special Federal share which may amount to 100 percent of construction costs. Contact: The State Highway Department of DOT and Federal Highway Administration Division Office in your state.

RSPA's Office of University Research is sponsoring several research projects in this area including: 1) Improved Software for Computerized Urban Traffic Control Systems. Contact: Joseph Roehl, HRS-32, FHWA, Office of Research, Traffic Systems Division, Washington, DC 20590, (703) 577-5227. 2) Distributed Computer Systems for Traffic Control. Contact: Joseph Roehl, HRS-32, FHWA, Office of Research, Traffic Systems Division, Washington, DC 20590, (703) 577-2557. 3) Development and Evaluation of Optimal Control Strategies for Large Scale Urban Transportation Networks. Contact: Joseph Koziol, DTS-721, Transportation Systems Center, Kendall Square, Cambridge, MA 02141, (617) 494-2014. 4) Reliable Decentralized Control Strategies for Freeway Regulation. Contact: Joseph Koziol, DTS-721, Transportation Systems Center, Kendall Square, Cambridge, MA 02142, (617) 494-2014. 5) A New Continuum Model for Traffic Flow. Contact: Diarmuid O'Mathuna, DTS-523, Transportation Systems Center, Kendall Square, Cambridge, MA 02142, (617) 494-2054. 6) Demand-Responsive Decentralized Urban Traffic Control. Contact: John MacGowan, HRS-32, FHWA, Office of Research, Traffic Systems Division, Washington, DC 20590, (703) 577-5227.

ADDITIONAL PROGRAMS

Public Technology, Inc. has prepared a handbook for local traffic engineers on how to protect traffic signalization systems from the effects of lightning. The handbook is based on technology developed by NASA/PTI Technology Applications Program. Public Technology, Inc., has also developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2400.

BEST DOCUMENT AVAILABLE

821-3/PREQUALIFICATION OF TRAFFIC SIGNAL CONTROLLERS

Problem Statement: Numerous electronic companies have entered the traffic signal controller field. Many appear to meet specifications with their products; however, this is difficult to document or verify due to the lack of test facilities and product experience records. A method of prequalifying bidders by adopting standard specifications and test procedures is desirable, along with specific designation of an agency to implement the prequalification.

Solution Considerations: 1) State prequalification standards and administration. 2) FHWA prequalification standards and administration. 3) Urban Consortium prequalification standards and administration.

FEDERAL PROGRAMS

The FHWA's Implementation Division in cooperation with the States of California and New York has developed a purchase order specification for the Type 170 Traffic Signal Controller, cabinets, and associated equipment. These specifications have been utilized by these States and by several local jurisdictions including: Overland Park, Kansas; Inglewood, California; and Santa Barbara, California. There are currently five manufacturers of this system. For further information contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9230.

ADDITIONAL PROGRAMS

The Institute of Transportation Engineers (ITE) has developed standards for traffic signal controllers. They are Pretimed Traffic Signal Controllers and Traffic Activated Traffic Signal Controllers. They are available from ITE. Contact: Jon Upchurch, Institute of Transportation Engineers, P.O. Box 9234, Arlington, VA 22209, 703/527-5277.

821-3/PREQUALIFICATION OF TRAFFIC SIGNAL CONTROLLERS

The National Electrical Manufacturer's Association (NEMA) has developed standards for traffic signal controllers. These standards have been useful to several Urban Consortium jurisdictions, including Dade County, Maricopa County, and Prince George's County. The title and publication number of this document is Traffic Control Systems, no. TS1-1976. The cost is $9.00. Contact: NEMA, 2102 L Street,N.W., Suite 300, Washington, DC 20037.

821-4/TRAFFIC FLOW MONITORING DEVICES

Problem Statement: The nature and location of traffic impediments must be quickly determined so that emergency vehicles can be dispatched and traffic rerouted.

Solution Considerations: A system should be developed that provides instant readouts of traffic conditions and pinpoints the location and cause of impediments.

FEDERAL PROGRAMS

FHWA's Implementation Division has programs that deal with this specific need. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9230.

ADDITIONAL PROGRAMS

A Shadow Box provides Information on Traffic Conditions. Shadow Network, Inc., has developed what is in effect a Citizen Band radio set coupled with telephone lines. This device can be installed almost anywhere. Shadow Boxes can be programmed to call a central location when a CB'er transmits on the emergency frequency. This device allows the authority to locate highway emergencies within seconds and to begin to work on the problem by talking on the telephone to the CB'er on the scene. Contact: Michael Lenet, Shadow Network, Inc., Holiday Inn, Suite 2100, City Line Avenue and Monument Road, Philadelphia, PA 19131, 215/477-7595.

821-5/VARIABLE MESSAGE SIGNS AND DRIVER INFORMATION SYSTEMS

Problem Statement: Current signs are sometimes inconsistent, inappropriate, and inflexible. Changing conditions require the ability to vary messages for traffic direction, control, and enforcement purposes.

Solution Considerations: Signs should be electronically and manually controlled, clearly visible (illuminated), dynamic, and flexible.

LOCAL PROGRAMS

Changeable Message Sign: DALLAS, TX has installed three drum-type changeable message signs (electro-mechanical control) on a major corridor in advance of three major entering points of southbound North Central Expressway, as well as three computer-controlled electronic variable message signs northbound. Freeway conditions and incidents are displayed for information to the driving public, with good response. Contact: Hon Chan, Street and Sanitation Department, 2721 Municipal Street, Dallas, TX 75215, 214/670-8213.

Specification Development: DADE COUNTY, FL has developed a set of specifications for both illuminated and variable message signs. Signs purchased under the county specifications perform well and are easily maintained. Contact: Carlos A. Muller, Department of Traffic and Transportation, 8675 N.W. 53rd Street, Suite 201, Miami, FL 33166, 305/592-0350.

Variable Messages: PHILADELPHIA, PA installed a roadside network, utilizing a linear antenna (leaky cable type) along various key lengths on the highway network. These antennas were connected to transmitters which were in turn linked to a central transportation control center which broadcast traffic condition on a real-time basis, with a different message for each of the highway advisory radio field locations. The system was operational during the Bicentennial celebration and served to direct motorists to public transit facilities and away from highway congestion. A study is now underway to perfect and increase the performance and reliability of the radio components of the sytem. Contact: Ira Pierce, Delaware Valley Regional Planning Commission, Penn Towers Building, 1819 J.F. Kennedy Blvd., Philadelphia, PA 19103, 215/567-3000.

821-5/VARIABLE MESSAGE SIGNS AND DRIVER INFORMATION SYSTEMS

FEDERAL PROGRAMS

FHWA's Implementation Division has programs dealing with this need. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9230.

821-6/SHIELDED SIGN VISIBILITY

Problem Statement: Effective traffic control requires that some traffic control signs be shielded from the view of drivers in certain lanes.

Solution Considerations: A programmed visibility sign should be devised.

FEDERAL PROGRAMS

FHWA's Implementation Division has programs dealing with this need. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9230.

821-7/FREEWAY RAMP AND MAINLINE METERING

Problem Statement: More information is needed about the design, management, and impacts of freeway ramp and mainline metering as a means of controlling traffic flow. Issues include impact on parallel arterials, equity, how to make metering work in both peak directions, and access to property blocked by queuing vehicles.

Solution Considerations: Analysis should include assessments of 1) changes in trip length and delay for shifted traffic for a cross-section of freeway users, 2) changes in accident rates for freeways and parallel arterials 3) potential need for mainline and freeway-to-freeway metering to enable both AM and PM peak metering where radial freeways serve downtown 4) the cost-effectiveness of these improvements in terms of resulting traffic improvements 5) the system's impact on inner-city residents.

LOCAL PROGRAMS

Ramp Metering: DALLAS, TX has installed a total of 35 ramp metering signals along North Central Expressway since 1972. A computerized system monitors freeway conditions--e.g., speed, volume, and gap--to determine appropriate metering rates for each individual ramp. Freeway congestion and delay and ramp accidents have been reduced. **Contact:** Hon Chan, Street and Sanitation Department, 2721 Municipal Street, Dallas, TX 75215, (214) 670-8213.

821 Transportation System Management--Traffic Operations

821-8/LEFT TURN ON RED

Problem Statement: An implementation program for left turn on red onto one-way streets is needed.

Solution Considerations: This program must assure pedestrian safety and reduce vehicular accidents.

STATE PROGRAMS

Left Turn on Red: The Georgia State Legislature in 1978 approved a bill permitting left turn on red from a one-way street onto a one-way street (right turn on red has been successfully in effect in Georgia for four years). The Office of Traffic Engineering and Safety, Georgia Department of Transportation, is monitoring the impacts and problems generated by this policy. Although this traffic management tool cannot be widely used due to the limited number of one-way streets, it may prove useful in the CBD's where one-way streets are more prevalent. Preliminary indications are that it works well and does not create any traffic hazard. Contact: Archie Burnham, Office of Traffic Engineering and Safety, Department of Transportation, State of Georgia, 2 Capitol Square, Atlanta, GA 30334, 404/656-5423.

Left Turn on Red: The Montana State Legislature approved a bill which permits a vehicle to turn left from a one-way street to a one-way street. No signs have been required to be posted. Contact: Al Goke, Department of Community Affairs, Capitol Station, Helena, MT 59601, 406/449-3412.

821-9/TRAFFIC SIGN AND SYMBOL STANDARDS

Problem Statement: Although a beginning has been made in standardizing signs and symbols for traffic control along streets, highways, and other transportation facilities, standards are needed regarding appropriate use, location, and installation of these symbols. Symbol and color standard for international signage are needed. Standards are also needed for pedestrian and bikeway signs.

Solution Considerations: Development of standards should involve consultation with all affected parties.

LOCAL PROGRAMS

Experimental Bus Stop Signs: The Delaware Valley Regional Planning Commission developed a modular bus sign utilizing a standardized logo with the route number and an efficiently developed headway schedule that notes approximate minutes between buses. A directional route map with major street and bus intersections, points of interest and travel time were developed and posted along key routes in and around center city. Bus riders can identify transit information needs, without the transit operator having to resort to inordinately large bus stop signs that might interfere with pedestrian and vehicle traffic. Contact: Ira Pierce, Delaware Valley Regional Planning Commission, Penn Towers Building, 1819 J.F. Kennedy Blvd., Philadelphia, PA 19103, 215/567-3000.

School Signing Program: DALLAS, TX. has developed a program that saves the city 20% in signs and installation costs. The program, formulated by the City of Dallas and school safety committees, provides for the standardization of all signs around schools and the removal of unnecessary signs. School speed zones are measured and recorded for easy enforcement and prosecution. Contact: J. M. Starek, Traffic Operations, 2721 Municipal, Dallas, TX 75215, 214/670-8218.

Symbol for a Bilingual Population: DADE COUNTY, FL. now uses symbol signs that communicate to drivers regardless of nationality. Explanatory plaques (often bilingual) are attached to newly installed symbol signs. Pilot tests show that obedience to the signs does not change when the plaques are removed. Contact: Kevin A. MacNaughton, Department of Traffic and Transportation, 8675 N.W. 53rd Street, Suite 201, Miami, FL 33166, 305/592-0350.

FEDERAL PROGRAMS

FHWA publishes the Manual of Uniform Traffic Control Devices addressing design and placement issues. Contact: R. E. Connor, HTO-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-0411.

ADDITIONAL PROGRAMS

The Institute of Transportation Engineers publishes the Transportation Engineering Handbook, dealing with this need. Contact: Institute of Transportation Engineers, 1815 N. Fort Myer Drive, Arlington, VA 22209, 703/527-5277.

821-10/NEIGHBORHOOD TRAFFIC CONTROLS

Problem Statement: Local jurisdictions are experimenting with a number of techniques for reducing through traffic and lowering speeds on neighborhood streets. More information is needed regarding the effectiveness, advisability, and legality of such measures.

Solution Considerations: Research should focus on system-wide effects rather than local effects. A catalogue of acceptable techniques should be developed. The potential for motorist compliance and the traffic safety consequences of various measures should be studied. Tort liability ramifications must be addressed.

LOCAL PROGRAMS

Neighborhood Traffic Control Program: SEATTLE, WA by City Council and city ordinance directive operates a $200,000 per year Neighborhood Traffic Director Program. It has had success in directing traffic in several neighborhoods. Over a dozen different project reports on neighborhood traffic controls are available. Contact: Lloyd Arlob, Seattle Engineering Department, 708 Municipal Building, Seattle, WA 98104, (206) 625-2347.

School Pedestrian Safety Committee: SAN JOSE, CA is utilizing citizen input to improve school pedestrian safety. The school pedestrian safety committee makes recommendations to the city staff regarding safe routes to school, and the placement and removal of adult school crossing guards and safety patrols. Contact: Ed Louis, Department of Public Works, Transportation Operations, 441 Park Avenue, San Jose, CA 95113, (408) 277-4711.

Speed Bump Study: SAN JOSE, CA made a study of speed bumps to determine the effectiveness of this method in reducing vehicle speed. The study provides documented proof that speed bumps cannot be designed to reduce speeds effectively without causing damage to vehicles and creating safety hazards. Contact: Ed Louis, Department of Public Works, Transportation Operations, 441 Park Avenue, San Jose, CA 95113, (408) 277-4711.

Subdivision Street Name Sign: DALLAS, TX is developing plans to require subdivision developers to assemble and install street name signs during initial paving and utility construction. Signs will be located so that additional controls could be eventually installed on the posts. Sign crews will be freed to do traffic control work. Contact: J.M. Starek, Traffic Operations, 2721 Municipal, Dallas, TX 75215, (214) 670-8218.

Traffic Diverters: BERKELEY, CA has installed traffic diverters throughout neighborhoods in the city. Local petitions are required to initiate such installations. Contact: Howard Sinemus, Department of Comprehensive Planning, 2180 Milvia Street, Berkeley, CA 94720, (415) 644-6534.

Speed Controls: WASHINGTON, DC has proposed two types of speed control devices: an advisory traffic speed sign and speed control undulations. The speed control sign will flash a "You Are Speeding" message to speeding motorists who have triggered loop detectors. The speed control undulations or humps are designed to slow traffic without causing vehicular damage. The humps will be about 4 inches high and 10 to 12 feet wide. The effectiveness of both types of controls will be evaluated through before and after tests. Contact: Tom Downs, Director, DC Department of Transportation, 415 12th Street, Washington, DC 20004, (202) 727-5847.

FEDERAL PROGRAMS

FHWA has programs dealing with the issues. Contact: R. E. Conner, HTO-20, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0411 or Transportation Systems Management Branch, HHP-32, Washington, DC 20590, (202) 426-0210.

FHWA's Office of Research has recently completed a report on the control of traffic in neighborhoods. Contact: Julie Fee, HRS-41, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0257.

UMTA has recently published a report entitled "The Restraint of the Automobile in American Residential Neighborhoods." It is available from the National Technical Information Service, 5285 Port Royal Rd., Springfield, VA 22161, (703) 577-4650; PB 287-485.

Woornerfs have been created in many European cities to control traffic in residential areas. The term Woornerf describes an extension of a living or play space near a residence or business into what formerly had been a street designed primarily for cars. A woornerf is being planned for Cambridge, MA. Contact: Howard Simkowitz, Office of Highway Planning, Federal Highway Administration, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0210.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

821-11/TEMPORARY BARRICADES

Problem Statement: Present temporary channelization devices (concrete bumper blocks, 55-gallon drums, and others) are unwieldy to transport and difficult to see.

Solution Considerations: Barricade devices should be highly visible, easy to transport, vandal-resistant, prefabricated or in kit form, low-cost, and resilient.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15) has a demonstration project for a safety barricade system under Demonstration Project No. 41, Breakaway Barricades. Contact: Thomas O. Edick, FHWA, Region 15, 1000 North Glebe Road, Arlington, VA 22201, 703/557-9070.

821-12/RESILIENT SIGNPOSTS

Problem Statement: Commonly-used rigid signposts can cause injury and property damage when struck by vehicles. Broken posts are hazardous and expensive to replace, both in terms of labor and material.

Solution Considerations: New signs should be resilient, easy to install, and economical.

LOCAL PROGRAMS

Flexible Signposts: PHOENIX, AZ has begun to use flexible sign-posts for delineators in locations of high loss to vehicles leaving road, etc. Posts are constructed of elastomeric polymer. The posts have resisted damage better than a number of other types that were tested, and have reduced maintenance costs. Contact: Jim Sparks, 251 W. Washington Street, Room 500, Phoenix, AZ 85003.

FEDERAL PROGRAMS

FHWA's Implementation Division has programs dealing with this need. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/526-9230.

821-13/SPEED LIMIT SIGN IMPACT STUDIES

Problem Statement: Speed limit signs are costly to install and maintain. The effect on driver's behavior is currently unclear.

Solution Considerations: A determination of the cost-effectiveness of sign installation is needed. Criteria should be established.

FEDERAL PROGRAMS

FHWA's Implementation Division has programs in this area. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9230.

821-14/TURN-LANE SPACING

Problem Statement: The lack of uniform standards for turn-lane spacing leads to confusing and unsafe traffic patterns.

Solution Considerations: Guidelines should reflect varying traffic conditions and uses.

LOCAL PROGRAMS

Left-Turn Pockets: LOS ANGELES, CA substantially reduced the accident rate at certain intersections by painting left-turn pockets and two-way traversable medians between intersections. Contact: M. C. Olson, Department of Traffic, 200 North Spring Street, 1004 City Hall, Los Angeles, CA 90012, 213/485-4261.

STATE PROGRAMS

Left-Turn Pockets: The State of Ohio Engineering Experiment Station at Ohio State University has developed state-of-the-art guidelines through a national cross-section survey for the application of continuous two-way left-turn median lanes. Copies of the report "Development of Guidelines for the Application of Continuous Two-Way Left-Turn Median Lanes" (EES Project 270, July 1976) are available. Contact: Leon Talbert, Bureau of Research and Development, Ohio Department of Transportation, Box 899, Columbus, Ohio 43216, 614/466-2916.

821-15/STREET LIGHTING ALTERNATIVES-IMPACT AND FEASIBILITY

Problem Statement: More information is needed on the effect of street lighting on personal safety and on vehicular and pedestrian accident rates and severity. Current streetlights are costly to operate and alternatives such as solar-powered street lights should be investigated.

Solution Considerations: 1) With respect to personal safety, both statistical data and community perceptions should be considered. 2) Prior State and major city evaluations should be reviewed and additional surveys conducted as needed. 3) Distinction should be made between limited access and other roadways. 4) Alternative street lighting and alternative energy sources should be developed and tested. 5) The feasibility of solar powered lighting given varying climatic conditions and lighting needs should be examined.

LOCAL PROGRAMS

Sodium Vapor Streetlights: SAN JOSE, CA uses sodium vapor street-lights to reduce energy costs. This type of lamp requires 50% less energy than conventional mercury vapor or incandescent fixtures. The City now requires all new commercial and industrial developments to use sodium lamps. City-wide conversion is contemplated with the anticipation that energy savings will pay back conversion costs in 4 to 5 years. Contact: Goutom Sarkar, Public Works Department, 801 North First Street, San Jose, CA 95110, (408) 277-5747.

Streetlight Energy Conservation: WASHINGTON, DC has instituted a program to remove every other light on selected arterial streets in order to conserve energy and reduce operating and maintenance costs. The program is coordinated with the Metropolitan Police Department to ensure the safety and security of motorists and pedestrians. More than 1100 lights have already been removed at a savings of $160 a year per light. Contact: Seward Cross, Bureau of Traffic Engineering and Operations, Department of Transportation, 613 G Street, N.W., Room 716, Washington, DC 20001, (202) 727-5873.

FEDERAL PROGRAMS

FHWA's Traffic Control Systems Division has programs dealing with this issue. Contact: C.W. Craig, HTO-23, FHWA, 400 7th Street, S.W., Washington, D.C. 20590, (202) 426-0411.

821-16/BETTER ENFORCEMENT OF TRAFFIC REGULATIONS

Problem Statement: Traffic violations reduce the effectiveness of the transportation system. Lax enforcement results in loss of revenue.

Solution Considerations: 1) Potential for increased violations should be included in the evaluation for transportation system impacts of land development proposals. 2) Enforcement might be improved through administrative judgment procedures, stiffer fines, more intensive tow-away programs, and more effective monitoring using civilian police.

LOCAL PROGRAMS

Selective Traffic Enforcement Program (STEP): Billings, MT issues tickets, not warnings, for any violation (regardless of the severity of the violation) at intersections and on streets with high accident rates. Five officers are presently assigned to this program. Contact: Gene Kiser, City of Billings Police Department, Box 1554.

Traffic Enforcement Committee: PORTLAND, ME has recently formed a committee responsible for reviewing areas with critical and reoccurring traffic problems. This committee is responsible for selecting the necessary corrective action and deployment of police manpower. Contact: William J. Bray, City of Portland, 389 Congress Street, Portland, ME 04101.

822-1/INSTITUTIONAL FRAMEWORK FOR INTEGRATED TRANSPORTATION PLANNING

Problem Statement: Lack of coordination in planning and implementing transportation programs leads to overlaps, delays, unnecessary expense, and sometimes conflicting policies. Inconsistent criteria are often used in evaluation of transportation proposals.

Solution Considerations: The following tools should be considered: 1) A handbook of interpretation of potential areas for coordination. 2) A hybrid planning tool which combines highway and transit models. 3) A guide to parking policy issues of siting, charging, zoning, access, and others. 4) A guide to coordination of bikeways and walkways with other modes.

LOCAL PROGRAMS

Central Transportation Administration: DADE COUNTY, FL has improved coordination of transportation planning, programming, and implementation by establishing a division of county administration responsible directly to the County Manager. This staff function has control over all modes of transportation, countywide. It is responsible for coordination of all transportation planning, including the officially-adopted transportation component of the County's Comprehensive Development Master Plan. It also coordinates plans for traffic operations, bus and rail rapid transit, street and highway improvements, taxicab regulation, and special elderly and handicapped transportation services. Contact: Woodrow L. Moore, Planning and Programming or Fred J. Silverman, Policy Planning, Office of Transportation Administration, 44 West Flagler Street, Miami, FL 33130, 305/579-5655.

Thoroughfare Information System/Thoroughfare Analysis Process: DALLAS, TX participated in the development of a planning tool for local government applications in the Dallas-Fort Worth region. The tool, still being tested by the North Central Texas Council of Governments, maintains data on all major thoroughfares, and generates statistics needed to compare transportation alternatives. The tool also provides project lists for capital improvements programming and allows for the evaluation of land use and transportation interactions. Contact: Jim Havens, Office of Transportation Programs, 5C South, 1500 Marilla, Dallas, TX 75201, 214/670-4038.

Transportation Planning Program: HENNEPIN COUNTY, MN is one of the jurisdictions in the Twin Cities Metropolitan Area that developed a structure and procedure for cooperative and continuing transportation planning by all agencies, governments and citizens, in compliance with State and Federal requirements. A prospectus describing the programs is available. Contact: Craig D. Spencer, Bureau of Public Service, A-2300 Government Center, Minneapolis, MN 55487, 612/348-4182.

FEDERAL PROGRAMS

FHWA's National Highway Institute develops and sponsors training courses on many aspects of highway transportation. Courses on public transit, transportation management, and several others are now being prepared. Contact: George Shrieves, HHI-2, National Highway Institute, 400 7th Street, S.W., Washington, DC 20590, 202/426-9141.

FHWA's Office of Highway Planning has two Divisions which deal with this need, the Urban Planning Division and the Public Transportation Management Division. Contact: Transportation System Management Branch, HHP-32, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-0210.

UMTA's Office of Planning Methods and Support develops and disseminates analytical planning tools which permit treatment of technical questions posed by a broad range of institutional conditions. Contact: Gran Paules, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9271.

UMTA'S Office of Policy and Program Development develops policy and implementation guidelines in a number of areas relevant to integrated highway/transit planning: alternatives analysis, joint development/value capture, environmental impacts assessment, and paratransit. Case studies of effective institutional arrangements have been prepared. Contact: Lawrence Schulman, UPP-10, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4060.

UMTA's Office of Transportation Planning, Management and Demonstration has conducted studies yielding prototype Transportation System Management plans. Contact: Richard Steinmann, UTP-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-2360.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has prepared an Information Bulletin addressing this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004 Attention: Transportation Staff, 202/ 626-2400.

822-2/INTERGOVERNMENTAL COORDINATION IN TRANSPORTATION SYSTEM EXPANSION

Problem Statement: Construction of an expanding transportation network should be part of an overall plan for enlarging the public utility infrastructure to support new population and economic growth. There is a need for improved coordination with agencies responsible for water treatment and distribution, storm and sanitary sewerage systems, and electrical power and distribution system.

Solution Considerations: 1) Improved communication between urban and suburban governments regarding development policies and issues. 2) Cooperation with the private sector to assure adequate services for economic expansion. 3) Intergovernmental cooperation in long-range implementation strategies. 4) Improved frameworks for integrated transportation and land use planning.

LOCAL PROGRAMS

A Framework for Transit Station Area Deveopment in Northeastern Illinois: NORTHEASTERN ILLINOIS Planning Commission is studying 11 transit station areas in northeastern Illinois, to identify prototypical development patterns which exist around transit stations in the region. Contact: John Henry Paige, NEIPC, 400 W. Madison, Chicago, IL, 312/454-0400.

Guiding Development at Freeway Interchanges is the tenth in the series of NORTHEASTERN ILLINOIS Planning Commission planning aids for use by citizens and local government officials. The guide reports on land development around some existing and proposed freeway interchanges in northeastern Illinois and suggest strategies to guide development near proposed interchanges: Contact: John Henry Paige, NEIPC, 400 W. Madision, Chicago, IL, 312/454-0400.

Regional Transit Development Program: LOS ANGELES, CA city agencies have contracted with regional agencies responsible for transportation facility development to coordinate planning in four areas. Interagency committees and subcommittees are involved in the analysis of 1) a downtown people mover, 2) a fixed rail starter line, 3) freeway transit and 4) Transportation Systems Management. Contact: Calvin S. Hamilton, City Planning Department, Room 561-C, City Hall, Los Angeles, CA 90012, 213/485-5073.

Transit Station Area Development Plans: ATLANTA, GA's Bureau of Planning in conjunction with the Metropolitan Atlanta Rapid Transit Authority (MARTA) has published 17 Transit Station Area Development plans to coordinate development around rail stations with existing city plans and policies. The preparation of these plans provided a forum for citizen input and a method for coordinating city policy with MARTA's goals. Several changes in station and parking lot design also resulted from the plans. Contact: Cathy Thomas, City of Atlanta, Bureau of Planning, 10 Pryor Street, Atlanta, GA 30303, 404/658-6306.

The Transportation System Development Plan: NORTHEASTERN IL's Regional Transportation Authority pursuant to a recent interagency agreement is actively participating with other regional planning agencies (Northeastern Illinois Planning Commission, Chicago Area Transportation Study, and Illinois Department of Transportation) in updating and revising the long range transportation system plan. The focus of these efforts is on the identification and evaluation of potential investments in regional highway and fixed rail facilities. Contact: Howard Permut, Regional Transportation Authority, Development Planning Department, 300 North State Street, Chicago, IL 60610, 312/836-4116.

The Unified Regional Planning Program: NORTHEASTERN IL's Regional Transportation Authority participates in the Unified Regional Planning Program, which coordinates Northeastern Illinois and Northwestern Indiana programs with all Federally-supported programs. Contact: Karen Sintic, Regional Transportation Authority, Development Planning Department, 300 North State Street, Chicago, IL 60610, 312/836-4112.

822-3/ACCELERATED IMPLEMENTATION PROCEDURES

Problem Statement: The red tape, lead time, and cost of meeting funding requirements for Federal funds of all types is burdensome and, in some cases, unacceptable to local governments. Delays arise from Federal legislation, executive regulations, and other requirements. State and regional organizations often require delay-causing procedures. Joint funding (e.g., Federal-Aid Urban System funds and Community Development Block Grant funds) by several Federal sources is often impossible because of conflicting specifications.

Solution Considerations: A program-by-program review of agency regulations could be made using a zero-base regulation approach. Each regulation should have an estimate of impacts on local and State agencies. A review of Federal legislation, such as the National Environmental Policy Act or the Clean Air Act Amendments of 1977, will probably not be as beneficial as a regulatory review.

FEDERAL PROGRAMS

FHWA's Special Procedures Branch can provide information on overall Federal-aid procedures and processes. Contact: Mr. C. R. Green, HNG-10, FHWA, 400 7th Street, S.W., Washington DC 20590, 202/426-0334.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

822-4/TECHNIQUES FOR TRANSPORTATION DECISION-MAKING

Problem Statement: There is a need to improve decision-making processes in the transportation field. Cities do not have a means to share experiences to identify the most productive decision-making techniques.

Solution Considerations: A review of local transportation decision-making should consider the roles of public employees, elected officials, and the public in an attempt to identify promising techniques.

LOCAL PROGRAMS

Advance Transportation Planning Team: PHOENIX, AZ utilizes the expertise of an advance transportation planning team in making transportation policy decisions. The team--composed of a civil engineer-economist, a traffic engineer, and an urban planner--operates out of the City Manager's office, and holds weekly meetings with key city staff members responsible for transportation-related activities. Contact: Philip Arthur, Advance Transportation Planning Team, 251 West Washington, Room 1000, Phoenix, AZ 85003, 602/262-7381.

Citizen Participation Program: DADE COUNTY, FL emphasized citizen participation in planning for a new rapid transit system. The public involvement program allowed for structured input into major technical decisions about the system. Techniques included two rounds of community review preceeding public hearings, written citizen comments on draft reports, TV and radio open-phone broadcasts, and bilingual communications. Conctact: Sylvia Morris King, Office of Transportation Administration, 44 West Flagler Street, Miami, FL 33130, 305/579-5654.

FEDERAL PROGRAMS

FHWA's Office of Program and Policy Planning has produced a two-volume study entitled "Effective Citizen Participation in Transportation Planning." The first volume overviews public involvement in transportation planning and serves as a summary of the entire report. The second volume is a catalog of participation techniques, with extensive descriptions of 34 suggested approaches to citizen participation. The reports are available from the National Technical Information Service, 5285 Port Royal Rd., Springfield, VA 22161, 703/557-4650.

822-5/PRIORITIES FOR RESOURCE ALLOCATION

Problem Statement: Local governments are finding it increasingly difficult to finance needed improvements and programs. Setting priorities to achieve maximum benefit from available funds is difficult for lack of a basis for rational comparison of different types of needs.

Solution Considerations: Attention should be directed to describing favorable procedures for developing small- and medium- scale transportation investment programs, including the matching of compatible programs, available funds, and desired ends. Establishing operational goals (for congestion, air quality, energy etc.), measures of effectiveness, and a delineation of constraints, should guide the assessment and choice between alternatives.

LOCAL PROGRAMS

Federal Aid Urban Program: HENNEPIN COUNTY, MN assisted in the development of a submittal and priority system for the allocation of FAUS funds to all projects in the Twin Cities Metropolitan Area. The system is described in a publication entitled A Guide to Processing Federal Aid Urban Projects for Transportation Facilities. Contact: Craig D. Spencer, Bureau of Public Service, A-2300 Government Center, Minneapolis, MN 55487, 612/348-4182.

Traffic Safety and Improvement Programs: PHOENIX, AZ has developed a short-range program of transportation improvements, emphasizing high payoff, relatively low capital cost projects. This program was approved by the City Council and will be fully implemented by the end of 1979. Contact: J. Donald Herp, Advance Transportation Planning Team, 251 West Washington, Room 1000, Phoenix, AZ 85003, 602/262-7381.

822-5/PRIORITIES FOR RESOURCE ALLOCATION

FEDERAL PROGRAMS

FHWA's Office of Research has developed Measures of Effectiveness for Multimodal Traffic Management. Contact: Dan Rosen, HRS-31, FHWA, 400 7th Street, S.W., Washington, DC 20590, 703/557-5224.

UMTA's Office of Transportation Planning Assistance has conducted studies yielding prototype Transportation System Management Plans. Contact: Richard Steinmann, UTP-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-2360.

822-6/COMPUTERIZED TRAFFIC ACCIDENT DATA

Problem Statement: Substantial manual effort is currently required to summarize accident statistics for consideration in planning roadway improvements. There is little consistency in the accident reporting requirements of different jurisdictions, hampering the design of a transferable computerized accident data reporting and retrieval system.

Solution Considerations: 1) Develop national reporting standards and forms. 2) Develop a system reporting on types and severity of accidents.

LOCAL PROGRAMS

Accident Information System: MEMPHIS, TN and SHELBY COUNTY maintain all traffic accident reports on a computer. A series of monthly reports is used to identify problem areas so countermeasures can be developed and implemented. These countermeasures are evaluated through a study of relevant data to determine their effectiveness in reducing traffic accidents, injuries, and fatalities. Contact: Ron Marshak, Traffic Safety Coordinating Committee, Suite 300, 161 Jefferson, Tenoke Building, Memphis, TN 38102, 901/528-3068.

Computerized Accident Records System: ALBANY, NY has developed a local computerized Accident Records System using the City's business computer. This system minimizes cost while providing a comprehensive accident system that identifies areas to be addressed through various countermeasures. Technical and user manuals are available. Contact: James A. Brunet, II, Department of Traffic Engineering, 526 Central Avenue, Albany, NY 12206, 518/438-6881.

Traffic Accident System: HENNEPIN COUNTY, MN has developed a computerized Traffic Accident System to assist in highway safety improvement in the county. Elements of the system include identifying hazardous locations, selecting alternative improvements, evaluating alternative improvements, programming and implementing improvements, and evaluating the highway safety program. A report on the system is available. Contact: Dennis L. Hansen, Department of Transportation, 320 Washington Avenue South, Hopkins, MN 55343, 612/935-3381.

STATE PROGRAMS

Accident Location Information and Surveillance System: The Arizona Department of Transportation operates a system, with the acronym ALISS, which utilizes a statewide Uniform Accident Report Form, and provides numerous output reports including high accident location reports based on number and rate methods, selective enforcement and standard summary reports, intersection and mid-block computer drawn collision diagrams, special criteria and multivariant selection capabilities. Maricopa County, Arizona uses this system. Contact: Ross Kelly, Arizona Department of Transportation, 205 South 17th Avenue, Phoenix, AZ 85007, 602/261-7724.

822-7/TRAFFIC PERFORMANCE MEASUREMENT

Problem Statement: There is a lack of information about how to measure and evaluate the performance of the various elements of an urban traffic system in terms of local goals and objectives. Comparability by mode among cities or regions is difficult because of varying policies that, either explicitly or implicitly, favor one mode above others. For example, areas which encourage transit ridership by using automobile disincentives are not interested in investing large sums in automobile level-of-service measures. A methodology for the quantitative evaluation of traffic operations is needed. Present methods for sampling data on transportation system usage and the effect of policy, management, and service changes are very expensive and time consuming.

Solution Considerations: The system should require no permanent sensors and identify traffic volumes and travel times within specified networks. Several questions need to be addressed: (1) What data are most important? (2) What data collection methods should be used and how much must be spent on each mode of collection? (3) How often should data bases be updated (4) What formats should the various data bases be in for easiest interjurisdictional information transfer? (5) Which local agencies should be responsible for collecting and maintaining the various data bases? An inventory of basic traffic performance made by U.S. cities would be of benefit.

LOCAL PROGRAMS

Cordon Surveys: WASHINGTON, DC's Metropolitan Washington Council of Governments performs an interjurisdictional survey of traffic annually to measure vehicle movements into the core area of the city and region. This program was expanded to survey circumvential surburban travel along the Beltway in 1979. The data collected includes vehicle volumes, automobile occupancy, transit passengers, vehicle classification, and state of registration. It provides a useful data base and records trends, as well as being useful in answering public inquiries, evaluating program effectiveness, and monitoring the transportation control plan. Contact: Ron Sarros, Metropolitan Washington Council of Governments, 1225 Connecticut Avenue, N.W., Washington, DC 20036, 202/223-6800.

Traffic Report. MEMPHIS and SHELBY COUNTY, TN and DESOTO COUNTY, MS, in a joint program coordinated by the Memphis Office of Planning and Development publish traffic volumes for over 1,000 locations in these jurisdictions. Traffic counts are provided for previous years and trends are noted and analyzed. High accident locations are listed and accident data is provided. This report is widely used by local and State agencies and the general public. The report provides an important data source in an easy-to-read format. Contact: Buford C. Murphee, Office of Planning and Development, 125 North Main Street, Memphis, TN 38103, 901/528-2768.

FEDERAL PROGRAMS

FHWA's Transportation System Management Branch has developed a computer assisted information system called "Management of Traffic Operations," to assist traffic engineers in developing traffic operations improvements for TSM plans. Program documentation (cite 050-001-00104-7) and sample input and output (cite 050-001-00105-7) are available from the Government Printing Office, Washington, DC. For additional information, Contact: FHWA, Transportation System Management Branch, 400 7th Street, S.W., Washington, DC 20590, 202/426-0210.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

822-8/TRANSIT PATRONAGE PREDICTORS

Problem Statement: A set of predictive techniques to do microlevel demand estimations, that could be used by persons without special mathematical background, is not presently available.

Solution Considerations: 1) The techniques should have an 80% confidence level. 2) Data base requirements should be simple, such as Census socioeconomic data, transit travel time, and distance from destination. 3) Techniques should require hardware no more sophisticated than standard office calculators. 4) The techniques should be suitable for calculation of demand for new transit routes (short-range, microlevel).

LOCAL PROGRAMS

Paratransit Demand: DADE COUNTY, FL has developed an equation to predict patronage of a paratransit system for the elderly. The multiple linear regression equation, based on existing operations and constraints, has a high level of statistical accuracy, utilizing as variables hours of operation, fare level, patronage, experience of currently operating systems, number of vehicles, and area size. The equation is a useful estimator of potential demand. Contact: Gary Spivack, Office of Transportation Administration, 44 West Flagler Street, 11th Floor, Miami, FL 33130, 305/-579-5655.

Short Range Ridership Projection Project: GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY is developing a validation and calibration model for short-range ridership estimates for Northeastern Ohio. The first phase of the project was a national survey of other transit authorities' methods for predicting short-range patronage on a route-specific basis. The project is being funded through UMTA's Office of Planning Assistance. Contact: Don Yuratovic, Greater Cleveland Regional Transit Authority, 1404 E. 9th Street, Cleveland, OH 44114, 216/781-5100 or Brian McCollom, UPM-10, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-2360.

822-8/TRANSIT PATRONAGE PREDICTORS

FEDERAL PROGRAMS

UMTA's Office of Planning Methods and Support develops computer and non-computer-based planning tools, including the Urban Transportation Planning System (UTPS), disseminates information, and sponsors training courses. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9271.

822-9/TRANSPORTATION PLANNING AND IMPACT FORECASTING TOOLS

Problem Statement: Rapid, reliable, policy-sensitive models and techniques for predicting the relationship between transportation and community development are needed. The techniques need not be computerized. More reliable data is needed for input into the planning process.

Solution Considerations: 1) Forecasting techniques are not very policy-sensitive. 2) Relationships between transportation and land use are not clear. 3) The problem of latent demand is not well understood. 4) Data base requirements are often unmanageable. New approaches to data collection--such as forms included in utility bill mailouts--should be considered. 5) Flexible, short- and long-range modeling techniques are needed.

LOCAL PROGRAMS

Transportation Improvement Program (TIP) Impact Assessment: The NORTHEASTERN ILLINOIS Planning Commission prepared a report consisting of recommendations for improvement of the TIP programming process and a detailed evaluation and assessment of the comprehensive planning impacts of the fiscal years 1979-1983 TIP for northeastern Illinois. Contact: John Henry Paige, NEIPC, 400 North Madison, Chicago, IL, 312/454-0400.

FEDERAL PROGRAMS

RSPA's Office of University Research is sponsoring several research projects in this area including: 1) Improvement of Large Scale Network Solution Procedures. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9271. 2) Development and Application of a Plan Programming Model for High Accessibility Urban Corridors. Contact: Edward Weiner, P-33, OST, 400 7th Street, S.W., Washington, DC 20590, 202/426-4441. 3) Impact of Transportation Policy on the Spacial Distribution of Retail Activity. Contact: David Rubin, DTS-24, Transportation Systems Center, Kendall Square, Cambridge, MA 02142, 617/494-2160. 4) Economic Structure, Community Development, and Transportation System: An

Empirical Analysis of Household Activity Patterns. Contact: Jesse Jacobson, DTS-243, Transportation Systems Center, Kendall Square, Cambridge, MA 02142, 617/494-2510. 5) Synthetic Travel Forecasting Using Traffic Count Correlations. Contact: George Schoener, HHP-24, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-0150.

UMTA's Office of Planning Methods and Support develops computer and non-computer based planning tools, including the Urban Transportation Planning System (UTPS), disseminates information, and sponsors training courses. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9271.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

The Urban Consortium for Technology Initiatives and its Transportation Task Force, through Public Technology, Inc., has studied the transportation planning issues facing local governments, and the manual and computer-based tools available to address these issues. One product of this effort is a document for local government managers describing the Federally developed Urban Transportation Planning System (UTPS). Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/ 626-2400.

822-10/SELECTIVE HIGHWAY CLOSURE

Problem Statement: Planning studies have raised questions as to certain urban highway facilities constructed in the 1950's and early 1960's, including Boston's Central Artery, San Francisco's Embarcadero Freeway, and New York's West Side Highway. Information is needed about the costs and benefits of closing such facilities.

Solution Considerations: Factors to be investigated include 1) transit impacts, 2) effects on urban mobility, 3) potential funding sources, and 4) institutional problems.

822-11/URBAN GOODS MOVEMENT

Problem Statement: Traffic congestion adversely affects the collection and distribution of goods and freight in urban areas and has increased inconvenience and costs in both the public and private sectors. Older northeastern cities lack extensive radial and circumferential expressway networks, and trucks must use minor arterials and local streets not designed to accommodate heavy truck traffic. Operating costs increase due to an inefficiently-used roadway network, and vehicle fleet sizes need to be increased to overcome lost productivity. The public sector is also adversely affected by such factors as pollution, high energy consumption, construction of new facilities, traffic enforcement and, in some cases, the shift of businesses to less congested, though more inaccessible, locations.

Solution Considerations: 1) Vehicle separation: (a) separation of passenger and freight vehicles by time of day, (b) separation into different roadway networks, and (c) off-street or grade-separated loading and unloading facilities. 2) Vehicle reduction: development of consolidation terminals or consolidated shipping and delivery programs. 3) Improved intermodal facilities. 4) Develop and publish truck route maps with an easily understood and enforceable policing mechanism.

LOCAL PROGRAMS

Thanksgiving Square Truck Terminal: DALLAS, TX has constructed a major grade-separated truck terminal in the heart of the CBD. The average number of daily deliveries increased from 98 in March 1977 to 162 in March 1978. The project is an excellent example of mixed use, joint development. A publicly-owned, underground pedestrianway with 15,000 square feet of leasable commercial space tops the terminal. Both facilities are located under a privately-owned meditation park open to the public. Contact: R. W. Kelly, Office of Transportation Programs, Room 5C, South, 1500 Marilla, Dallas, TX 75201, 214/670-4025.

Truck Advisory Committee: SAN JOSE, CA has a program in which representatives of the trucking industry, traffic engineering staff, and police department attempt to develop mutually acceptable solutions to problems created by the parking and routing of trucks. Contact: Wayne Tands, Senior Civil Engineer, City of San Jose, 801 N. First Street, San Jose, CA 95110, 408/277-4304.

FEDERAL PROGRAMS

FHWA's Transportation System Management Branch is developing a manual on local planning for urban goods movement, emphasizing Transportation Systems Management strategies. Contact: Transportation System Management Branch, HHP-32, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-0210.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

822-12/TRANSPORTATION OF HAZARDOUS MATERIALS

Problem Statement: The number of classifiable toxic substances increases by one thousand each year. These substances are moving in interstate commerce. As the number and volume of these substances increases, the likelihood of their involvement in a transportation accident also increases. The origin, destination, and itinerary of these materials, as well as their specific identification, are rarely provided to local officials in advance, making effective planning for an emergency response almost impossible. Recent headlines on transportation-related spills or potentially hazardous transportation incidents have intensified the concern of many local officials and underlined the inadequacy of local response plans, as well as the inadequacy of coordination among the various sectors involved.

Solution Considerations: A system is needed to identify hazardous materials in a single way. Coordination between industry and local governments is necessary to alert municipalities and enhance planning for emergency response to any incidents which do occur. An information dissemination mechanism is needed so that local officials can gain a better understanding of Federal activities, particularly regarding the rules and regulations relating to interstate transportation of hazardous materials. It is also imperative that communication channels be opened so that local concerns can be addressed.

LOCAL PROGRAMS

Local Government Involvement in Accident Prevention: THE PUGET SOUND COUNCIL OF GOVERNMENTS is investigating whether greater involvement by local governments in accident prevention and response could result in improved public safety without unduly restricting the transportation of hazardous materials. Contact: Puget Sound Council of Governments, 216 First Avenue South, Seattle, WA 98104, (206) 464-7090.

Channel Industries Mutual Aid: HOUSTON, TX's channel industries, local full-time and volunteer fire departments, and the port authority have joined together to provide protection along the City's industrial shipping channel. Contact: Chief Roy Granberry, Port of Houston Fire Strategy and Tactics, 333 Preston Street, Houston, TX 77002, (713) 222-4631.

Specialized Response Squads: MEMPHIS, TN has set up and trained two REACT squads to provide specialized services at the scene of a hazardous materials incident. Contact: Robert W. Walker, Director, Fire Services, Memphis Division of Fire Services, 65 South Front Street, Memphis, TN 38103, (901) 526-0706.

Hazardous Materials Response Teams: PRINCE GEORGE'S COUNTY, MD is planning to organize three response teams. The teams will provide technical assistance, coordination of outside assistance, and assistance in the use of special equipment in the event of an incident. Contact: Jim Estepp, Fire Chief, Prince George's County Fire Department, County Administration Building, Upper Marlboro, MD 20870, (301) 952-4730.

FEDERAL PROGRAMS

RSPA's Materials Transportation Bureau (MTB) is responsible for the safe transportation of all hazardous materials. The Bureau funds applied research and development and engineering projects that are in support of hazardous materials regulations. A few of the R&D study areas include: hazardous materials classification, packaging, risk analysis, hazard reduction and control, packaging performance, training, and emergency response. MTB also maintains a computer data base for all recorded hazardous materials incidents. The Bureau's Office of Operations and Enforcement enforces hazardous materials regulations under 49 C.F.R. Parts 100-199. MTB's Information Services Division is responsible for disseminating information on safe packaging and transportation of hazardous materials. It also distributes training materials for emergency response personnel regarding hazardous materials accidents. Contact: L.D. Santman, DMT-1, RSPA, 400 7th Street, S.W., Washington, DC 20590, (202) 755-9260.

The U.S. Coast Guard issues and enforces regulations relating to bulk shipments in vessels. Contact: Capt. K.B. Schumaker, G-MHM, USCOG, Office of Merchant Marine Safety, Cargo and Hazardous Materials Division, Room 1406C, Trans Point Building, 2100 2nd Street, S.W., Washington, DC 20593, (202) 426-2297; or Capt. Charles R. Corbett, G-WER, USCOG, Office of Marine Environment and Systems, Room 1200 Trans Point Building, 2100 2nd Street, S.W., Washington, DC 20593, (202) 426-0210.

FHWA's Bureau of Motor Carrier Safety can provide information on the transportation of hazardous materials. Contact: Kenneth L. Pierson, HMC-2, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-1803.

FRA's Office of Standards and Procedures can provide information on the transportation of hazardous materials. Contact: W.F. Black, RRS-21, FRA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-2748.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has prepared an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

822-13/INFORMATION ON TRANSIT RELATED COMPUTER PROGRAMS

Problem Statement: Many cities have independently developed computer programs to assist with a variety of traffic and transit operations and maintenance problems. Since there is no current inventory of these programs, many of the same programs may be developed over and over in different cities. If a central library were available, it would reduce the cost of developing similar software.

Solution Considerations: An organization could develop and maintain a library or work with other organizations (APTA, UMTA, DOT, PTI, etc.) in formation of such a library.

FEDERAL PROGRAMS

UMTA's Office of Planning Methods and Support researches, develops and disseminates analytical techniques and case studies which support this aspect of transportation planning. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9271.

822-14/TRANSPORTATION CONSTRUCTION MANAGEMENT

Problem Statement: Because public funds are scarce, and urban transportation construction projects are increasingly complex, there is a need to transfer well-established construction management techniques used in the construction field, and in private industry to local government and urban transportation projects.

Solution Consideration: How effective is construction management for transportation projects? Can the techniques developed by the private sector in the construction field be transferred directly to the public sector and the transportation field or must the techniques be redesigned?

LOCAL PROGRAMS

Construction management techniques have been used in the development of new rapid rail transit systems in: SAN FRANCISCO - Contact: Keith Bernard, General Manager, San Francisco Bay Area Rapid Transit District, 800 Madison Street, Oakland, CA 94607, (415) 465-4100. WASHINGTON, DC - Contact: Richard Page, General Manager, WMATA 600 Fifth Street, N.W., Washington, DC 20001, (202) 637-1234. ATLANTA - Contact: Glenn P. Ingwersen, Director of Construction, MARTA, 2200 Peachtree Summit, 401 West Peachtree Street, N.E., Atlanta, GA 30308, (404) 586-5000. BALTIMORE - Contact: R.J. Murray, Project Manager, Rapid Transit Development, MTA, 109 East Redwood Street, Baltimore, MD 21202, (301) 383-6221.

FEDERAL PROGRAMS

UMTA's Office of Rail Construction Technology is concerned with project and construction management techniques. Contact: Gilbert Butler, UTD-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0090.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has prepared and Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

822-15/EFFECT OF TRANSPORTATION SYSTEM MANAGEMENT ON TRANSIT OPERATING SPEEDS

Problem Statement: One function of Transportation System Management (TSM) is to ensure the efficient use of existing road space. This includes high-occupancy vehicle lanes, traffic signal coordination, traffic signal preemption, and ramp metering projects. These actions are frequently recommended when trying to improve transit operating speeds and thereby increase transit modal split.

Solution Considerations: Analyze projects that have been implemented throughout the country to determine the effect of these actions on transit operating speeds.

ADDITIONAL PROGRAMS

The National Cooperative Transit Research and Development Program is conducting research in this area as part of its 1980 Annual Work Program. Contact: Michael Replogle, Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2468.

822-16/TRANSPORTATION ENERGY CONTINGENCY PLANNING AND ENERGY CONSERVATION

Problem Statement: The short- and long-term effects of mass transportation on energy consumption needs to be determined. Measurement of energy savings from interrelated transportation system management policies is difficult. Energy conservation programs that can be used by local transit agencies need to be developed. Action plans for local transportation systems in case of fuel shortages need to be developed.

Solution Considerations: 1) Conduct case studies on the impacts of different local transportation energy conservation policies and programs. 2) Develop an information exchange program on what is being done through transportation improvements to conserve energy. 3) Develop land use planning which would reduce energy consumption by eliminating excessive use of the automobile. 4) Develop Federal and local policies for energy conservation in times of a severe fuel shortage crisis. 5) Purchase energy efficient vehicles. 6) Determine the feasibility of using alternative fuels for local transit vehicles. 7) Establish reserve bus fleets and reserve fuel facilities for use in times of severe fuel shortages. 8) Develop local programs to enhance and encourage the use of bicycles for short trips and as a feeder mode coordinated with public transportation.

LOCAL PROGRAMS

An Energy Crisis Contingency Plan: THE MUNICIPALITY OF METROPOLITAN SEATTLE is updating a 1975 Energy Crisis Contingency Plan. The plan discusses how to get the transit system to do more during an energy crisis to meet increased demands for public transit and how to serve areas not normally served. The cost of implementing the plan is included, along with a discussion of what to do if not enough fuel is available for the transit system. Contact: Jackie Dewey, Municipality of Metropolitan Seattle, 821 2nd Avenue, Seattle, WA 98104, (206) 447-6768.

A Metropolitan Transportation Plan for National Energy Contingencies: NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS developed a program by which the mobility of the workers of the region would be maintained in the event of restricted local fuel supplies. Problems created by fuel shortages are identified and analyzed, implementation considerations are discussed, and 11 recommended strategies for dealing with a crisis are listed. Contact: William G. Barker, North Central Texas Council of

Governments, 360 Place, P.O. Drawer COG, Arlington, TX 76011, (817) 640-3300.

Gasoline Shortage Contingency Plan: THE SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT has prepared a contingency plan for its bus operation in the event a gasoline shortage of crisis proportions significantly restricts automobile mobility. Contact: Paul C. Taylor, Southern California Rapid Transit District, 425 S. Main Street, Los Angeles, CA 90013, (213) 972-6170.

Petroleum Shortage Contingency Plan: THE MEMPHIS AREA TRANSIT AUTHORITY has prepared a contingency plan in case of a serious petroleum shortage. The plan defines the general transportation options available in an emergency situation as well as transit and paratransit options. It also discusses the application of the energy conservation strategies. System capacity is identified, potential fuel savings are estimated, and specific actions to be undertaken by the various transit authority operating departments are outlined. Contact: Kerry D. Roby, Memphis Area Transit Authority, P.O. Box 122, 701 N. Main Street, Memphis, TN 38101, (901) 528-2893.

Petroleum Shortage Contingency Plan: NASHVILLE, TN's METROPOLITAN TRANSPORTATION AUTHORITY has developed a contingency plan which outlines the conditions which might lead to an emergency situation regarding petroleum supplies, discusses the major transit and paratransit options available to meet increased demand in a major fuel shortage, considers transit related options available to major employers and local decision makers, identifies the reserve capacity of the existing system, estimates fuel savings that could be realized, and defines a specific course of action for the Metropolitan Transportation Authority. Contact: Mike Harbour, Metropolitan Transportation Authority, 60 Peabody Street, Nashville, TN 37210, (615) 242-1622.

Transportation Energy Contingency Plan: The EAST-WEST GATEWAY COORDINATING COUNCIL has developed a plan which addresses how an energy shortage would affect ground transportation in the St. Louis region and recommends actions that could be implemented to help assure that travel to work would be maintained. The plan is designed to serve as a source of reference for persons concerned with short-term energy supply problems. Energy data is presented for the region along with a national overview, and a list of recommendations and strategies are discussed and analyzed for effectiveness in dealing with several levels of energy shortages. Contact: James Bogart, East-West Gateway Coordinating Council, The St. Louis Area Council of Governments, Pierce Building, Suite 1200, 112 N. 4th Street, St. Louis, MO 631102, (314) 421-4220.

Contingency Action Plan: DADE COUNTY, FL has prepared a Contingency Action Plan that contains a number of gasoline conservation measures for implementation during different types of fuel shortages. **Contact**: John A. Dyer, Metropolitan Planning Organization for the Miami Urbanized Area, 44 West Flagler, Miami, FL 33130, (305) 579-5675.

Fuel Management Plan: DADE COUNTY, FL has developed a separate five-phase fuel management program that involves the rationing of fuel according to priority of use and level of fuel supplies available. **Contact**: Dana Alvarez, Energy Coordinator, Dade County, 140 West Flagler Street, Suite 1603, Miami, FL 33130, (305) 579-5275.

Transit and Paratransit Expansion Program: THE METROPOLITAN TRANSIT COMMISSION for the Twin Cities Area has developed a plan of contingency options for transit and paratransit expansion. **Contact**: Metropolitan Transit Commission, Metro Square Building, 7th and Robert Streets, St. Paul, MN 55101, (612) 291-6359.

Transportation Energy Contingency Plan: THE MID-AMERICA REGIONAL COUNCIL is preparing a plan for local governments in the Kansas City Metropolitan Region to be used in the event of a fuel emergency. The plan details the major actions to be taken and provides an in-depth analysis of their institutional and legal framework. The final plan will provide a "cookbook" for the transportation energy contingency planning process for use by other regional councils and local governments. The project is being funded by the Urban Mass Transportation Administration. **Contact**: Hampton McDowell, Mid-America Regional Council, 20 West Ninth, Suite 200, Kansas City, MO 64105, (816) 474-4240.

FEDERAL PROGRAMS

U.S. DOT's Office of Environment and Safety can provide information and resources on and for bicycle transportation programs. The report, *Bicycle Transportation for Energy Conservation* discusses strategies to save energy by promoting bicycle transportation. This study outlines the U.S. DOT Comprehensive Bicycle Program. **Contact**: Maureen Craig, Bicycle Program Coordinator, Office of the Secretary, P-23, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4414.

FHWA's Transportation System Management Branch and UMTA, in cooperation with DOE, are currently sponsoring a research contract with the Massachusetts Institute of Technology (MIT) to study transportation energy contingency issues and develop training materials for potential future workshops. A report, *Transportation Energy Contingency Planning: Local Experiences*, which includes excerpts of several local contingency plans, has also been prepared. **Contact**: Gary Maring, HHP-32, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0210.

822-16/TRANSPORTATION ENERGY CONTINGENCY PLANNING AND ENERGY CONSERVATION

RSPA's Office of University Research is sponsoring several research projects in this area including: 1) Transportation Energy Consumption and Urban Form Relationships. Contact: Helen Doo, P-33, OST 400 7th Street, S.W., Washington, DC 20590, (202) 426-4441. 2) Interactions Between National Energy Supply and Transportation-Related Energy Consumption. Contact: Louise Skinner, HPP-22, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0182.

FHWA's Office of Planning and Policy Development provides direction for the FHWA policy statement and contingency plan through the FHWA Energy Council Project. Contact: Richard B. Robertson, HPL-1, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0585.

UMTA's Office of Planning Assistance has conducted Energy Contingency Prototype Studies and a series of Energy Contingency Planning Workshops to assist local governments in developing contingency strategies. Contact: Richard Steinmann, UPM-13, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-5140.

DOE's Economic Regulatory Administration offers a hot line service for transit agencies seeking supplies of fuel. Contact: Esther Reed, Hotline Supervisor, (800) 424-9246.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has developed two Information Bulletins dealing with this need. The first, Mass Transportation Energy Conservation and Contingency Planning, addresses the medium- and long-term issues and actions that can be taken to soften the long-term impacts of petroleum shortages. The second, Transportation Energy Contingency Planning, addresses the short-term issues and suggests advance preparations local government officials might initiate. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

822-17/FEDERAL AIR QUALITY REQUIREMENTS AND MEASUREMENT TECHNIQUES

Problem Statement: The Federal Clean Air Act of 1970 set rigid standards for improving air quality under State plans or, in their absence, plans developed by the EPA. In 1977, the Act was amended to provide less rigid standards and for the participation of local agencies in the planning process. Most large urban areas with CO and O_x problems will be unable to meet the Federal standards even with controls on stationary sources of pollution and Federal new car standards. These areas must develop and implement transportation pollution control measures, such as mass transit improvements, priority treatment for high-occupancy vehicles, car- and van-pool programs, parking management strategies, pricing techniques to discourage automobile travel, and autorestricted zones.

Solution Considerations: Methods for implementing the required transportation controls and their policy implications are not wellknown. The Environmental Protection Agency and the Department of Transportation are preparing descriptions of various controls, their likely impacts, implementation strategies and other policy considerations.

LOCAL PROGRAMS

Air Quality Technical Demonstration Project: BOSTON, MA's Redevelopment Authority is administering a Federally-funded air quality project whose objectives are 1) to create clean air offsets by reducing emissions from city-owned or influenced facilities, such as municipal gasoline pumps for police and city vehicles, 2) to discourage large firms from buying out small concerns so that the air pollution they used to emit can be transfered to the big firms to expand their operations, and 3) to provide financial and technical assistance to small firms in need of pollution control knowledge or hardware; for example, organizing dry cleaners to save money by purchasing pollution control equipment together. **Contact:** Robert Ryan, Boston Redevelopment Authority, 1 City Hall, Boston, MA 02201, 617/722-4300.

822-17/FEDERAL AIR QUALITY REQUIREMENTS AND MEASUREMENT TECHNIQUES

Air Quality Technical Demonstration Project: BRIDGEPORT and WATERBURY, CT are jointly involved in a Federally-funded air quality project whose objectives are 1) to study the State's policies for accommodating growth within air quality constraints, 2) to study three areas--The Captain Neville Drive Industrial Park, the Chase Bar area and the Boston Ave--for ways of balancing growth with clean air, 3) to experiment with the purchase of air quality improvements by the cities, for later distribution as needed. Contact: Roy L. O'Neil, Jr., Mayor's Office of Community Development, 236 Grant Street, Waterbury, CT 06702, 203/753-2286.

Air Quality Technical Demonstration Project: BUFFALO and ERIE COUNTY, NY are jointly involved in a Federally-funded air quality project whose objectives are 1) to establish an offset information center that includes data on air quality and geographic industrial profiles relevant to commercial siting and development, 2) to provide pollution control assistance for small-and medium-sized firms, and 3) to prepare a waterfront development plan. Conctact: Joan Loring, Erie County, Department of Environment and Planning, 95 Franklin Street, Buffalo, NY 14202, 716/846-8525.

Air Quality Technical Demonstration Project: CHICAGO, IL's Economic Development Commission is administering a Federally-funded air quality project whose objectives are 1) to establish a system for banking emission offset for later distribution to existing or new industries, 2) to develop mechanisms for financial and technical assistance to companies with air pollution control problems, 3) to incorporate clean air requirements into an existing one stop service for various permits needed for new construction. Contact: H.W. Poston, Department of Environmental Control, Economic Development Commission, Chicago, IL 60602, 312/744-4080.

Air Quality Technical Demonstration Project: ELIZABETH, NJ's Health, Welfare and Housing Department is administering a Federally-funded air quality project whose objectives are to offset increased emissions from expanded industrial development by using state-of-the-art improvements in pollution control and by encouraging car pooling and improved mass transit. Contact: John N. Surmoy, Health, Welfare and Housing Department, 50 West Scott Place, Elizabeth, NJ 07201, 201/353-6000 Ext. 200 or Dennis W. Hudsesko, 50 West Scott Place, Elizabeth, NJ 07201, 201/353-6000 Ext. 313.

Air Quality Technical Demonstration Project: MINNEAPOLIS-ST. PAUL, MN's Metropolitan Council is administering a Federally-funded air quality project whose objectives are 1) to begin work on establishing emission limits in the region's zoning process, 2) to develop procedures for incorporating air quality assessments into regional capital improvement programs, and 3) to create offset banking and air quality ordinances as tools for long-term air quality management. Contact: Maurice Dorton, Metropolitan Council, 300 Metro Square Building, Seventh and Robert Streets, St. Paul, MN 55101, 612/291-6499.

Air Quality Technical Demonstration Project: PHILADELPHIA, PA is administering a Federally-funded air quality project whose objectives are 1) to identify industries beneficial for economic and pollution control reasons, 2) to determine methods, such as low-interest loans, for financing pollution control equipment for these industries, 3) to research a program for air quality offsets, that would allow some pollution from new industries by cleaning up an even greater amount of pollution from existing plants, 4) to investigate whether improved air quality can be gained by fees related to the amount of pollution a firm or activity generates, 5) to determine whether tighter controls on emissions from autos and other vehicles can create clean air bonuses that could be used to expand industrial development. Contact: William Reilly, Managing Directors' Office, Municipal Services Building, Philadelphia, PA 19107, 215/686-7840.

Air Quality Technical Demonstration Project: PORTLAND, OR is administering a Federally-funded air quality project whose objectives are 1) to design bus routes for the Swan Island Industrial District and to give transit subsidies to employees in this area whose firms participate in long-range transit use programs, 2) to conduct a growth management study to assess alternative approaches to maintaining air quality and economic development in the city's policy and planning activities. Contact: Cynthia Kuntz, Policy Development and Research Section, 620 S.W. Fifth Avenue, Room 610, Portland, OR 97204, 503/248-4293.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15): Demonstration Project No. 38 presents the latest state-of-the-art techniques to measure and predict carbon monoxide impacts on highway projects. The demonstration includes a trailer equipped as a miniclassroom and laboratory.

RSPA's Office of System's Engineering is sponsoring several research projects in this area including the Measurement and Identification of Ultrafine Aerosols in Polluted Air. Contact: Samuel Coroniti, DPB-25, RSPA, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-9638.

UMTA's Office of Planning Methods and Support and EPA are jointly developing analytical methods which support air quality analysis as required by the Clean Air Act. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-9211.

UMTA's Office of Policy and Program Development conducts research into the impacts of Transportation System Management actions as they affect air pollution. Through Alan M. Voorhees and Associates, Inc. they have produced

822-17/FEDERAL AIR QUALITY REQUIREMENTS AND MEASUREMENT TECHNIQUES

a report "Transportation System Management: An Assessment of Impacts." Contact: Richard Cohen, UPP-31, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4058.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Intiatives Transportation Task Force, through Public Technology, Inc., developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue N.W., Washington, DC 20004 Attention: Transportation Staff, 202/626-2400.

822-18/NOISE CONTROL PROCEDURES, NOISE POLLUTION

Problem Statement: There is an increasing concern about noise pollution and control in the urban environment. There is a need to develop standards and measures to control noise levels.

Solution Considerations: Collect data on cities that are addressing this problem and disseminate this information to other jurisdictions.

FEDERAL PROGRAMS

FHWA's Demonstration Projects Division (Region 15): Demonstration Project No. 45 presents the latest information on the state-of-the-art techniques to measure, predict, and abate highway-related noise. It consists of a series of class and field workshops run in and around a trailer equipped as a miniclassroom and noise analysis laboratory. Contact: Thomas O. Edick, FHWA-Region 15, 1000 North Glebe Road, Arlington, VA 22201, 703/557-9070.

UMTA's Bus Noise Retrofit Program: UMTA's Office of Bus and Paratransit Technology in cooperation with EPA is conducting a program with Tri-Met in Portland, Oregon to identify quieting fixes. Contact: James F. Campbell, UMTA, UTD-23, 400 7th Street, S.W., Washington, DC 20590, 202/426-4035.

822-19/STREET MANAGEMENT INFORMATION SYSTEM

Problem Statement: Because urban areas are dynamic, continuously changing environments, local officials have found it almost impossible manually to maintain accurate, up-to-date, and readily accessible maps and records on existing public facilities. This problem is complicated by the enormous quantities of data required by different city departments, interagency needs for the same records, both private and public ownership of municipal services, and increasing demands for public accountability.

Solution Considerations: Several street management inventory systems exist and are used by cities. The troublesome part is collecting the data and maintaining an accurate file which reflects recent changes. All too often, data maintenance is neglected which makes the file useless.

LOCAL PROGRAMS

Computer Based Road Inventory System: MARICOPA COUNTY, AZ has developed a computer based road inventory system. Files are maintained with information on road mileage by type, construction, and condition, and right-of-way structures and their condition, including what has been done, when, and at what cost. Contact: Roberta Blanchette, Data Processing Manager, Maricopa County Highway Department, 3325 West Durango, Phoenix, AZ 85009, (602) 262-3615.

Street Inventory and Management Information System: SAN ANTONIO, TX, in conjunction with the County MPO, is developing a street management and inventory system. Contact: Stewart Fischer, Director, Traffic and Transportation Department, City of San Antonio, P.O. Box 9066, San Antonio, TX 78285 (512) 299-7720.

Maps Planning System: HENNEPIN COUNTY and MINNEAPOLIS, MN are working on a jointly sponsored Planning System called MAPS. The system has been in operation since 1974 and includes information on street underground facilities, parcel boundaries, crime, accidents, and fire information. Local private utility companies have also added information to the system. Contact: Al Azemove, Manager, Systems and Data Processing, Hennepin County Bureau of Public Service, 320 Washington Avenue, South, Hopkins, MN 55343, (612) 935-3381.

Street Facilities Photolog: SAN JOSE, CA is developing a photolog inventory of street surface facilities data. Accident data may be added to the inventory in the future. Contact: Jim Kennedy, Transportation Safety Coordinator, 801 North 1st Street, Room 340, San Jose, CA 95110, (408) 277-5341.

Computerized Street Information System: NEW YORK, NY is developing a computerized street information system to include software, a photolog inventory of all streets within the City, extraction of photolog data, computerized field and office data, and comparative field and office data. Contact: Sheldon Fialkoff, Director, Office of Transportation Programming, NYC DOT, 40 Worth Street, New York, NY 10013, (212) 566-3960.

FEDERAL PROGRAMS

UMTA's Office of Planning Methods and Support researchs, develops, and disseminates analytical techniques and case studies that can support Street Management Information Systems in relation to transportation planning. Contact: Robert B. Dial, Director, Office of Planning Methods and Support, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9271.

FHWA's Implementation Division develops products and programs to improve street maintenance management and addresses subjects ranging from administrative and management procedures to specific maintenance activities. Contact: Robert Betsold, Implementation Division, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590 (202) 426-9230.

U.S. Bureau of the Census developed GBF/DIME/ADMATCH files using Census statistics to support local planning, information, and management systems. These can be geocoded and integrated with other street management information files. Contact: Pat Griffin, Statistical Research Division, U.S. Bureau of the Census, Washington, DC 20233, (202) 763-7134.

ADDITIONAL PROGRAMS

The American Public Works Association is sponsoring a Computer Assisted Mapping and Records Activity System (CAMRAS) project. Contact: George Hinkel, American Public Works Association, 1314 East 60th Street, Chicago, IL 60637, (312) 947-2544.

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin on this subject. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2423.

822-20/CITIZEN PARTICIPATION IN TRANSPORTATION PLANNING

Problem Statement: Federal mandates for citizen participation vary widely and have resulted in often ineffective and counterproductive local citizen participation efforts. Many cities have attempted to inform citizens affected by transportation capital projects so they know how their lives will be affected by the construction. Attempts have been made to inform people of what will be done and seek their input. However, little meaningful success has been achieved.

Solution Considerations: Research is needed to identify processes for matching citizen participation techniques to the various contexts in which they are used. Improved planning guidelines, training, information transfer, and citizen participation processes are needed.

LOCAL PROGRAMS

Master Plan Dissemination: ROCKVILLE, MD provides potential property owners with a copy of the City's Master Plan prior to their purchase of property. This provides potential property owners with the chance to learn about any plans, including transportation plans, that might affect their property. Contact: Mike Davis, Planning Director, City Hall, Maryland and Vinson, Rockville, MD 20850, (202) 424-8000.

822-21/MEASURING EQUITY OF TRANSPORTATION OPPORTUNITIES

Problem Statement: Few satisfactory measures presently exist to determine how well various sub-groups of the population are served by transit and the overall transportation system. Personal and community economic development is often impaired by inadequate accessibility. More research is needed to develop methods and measures for accessibility measurement to improve planning and project evaluation.

Solution Considerations: Evaluation measures for analyzing the availability and accessibility of various transportation modes for various population groups need to be identified and tested. The type of data required to conduct the analyses must be identified.

822-22/FUEL AND OIL ADDITIVES

Problem Statement: Fuel and oil additives to increase fuel economy, reduce air pollution, and increase engine life are being used in transit buses and city fleets across the country. Little information exists about the impacts of these additives.

Solution Considerations: A survey could be conducted to find out what additives are being used and their impacts. With funds from the Department of Transportation or the Environmental Protection Agency empirical tests could be conducted to determine the actual impacts.

LOCAL PROGRAMS

Fuel Additive Analyses: ALLEGHANY COUNTY, PA used a fuel additive called Extra Energy (ERG) in county vehicles for one year. Though initial tests indicated a 14% increase in fuel economy, only 2% increase was experienced during the year of use. As a result, the county no longer uses the additive. Contact: Janet Murphy, Fleet Coordinator, 215 McKean Street, Pittsburgh, PA 15219, (412) 355-5683.

STATE PROGRAMS

Fuel Additives: FLORIDA State Department of Transportation has been using a fuel additive called Extra Power Combustion Lubricant in all of its state vehicles since 1969. Research conducted by the State DOT indicated that the additive increased mileage by as much as 25% and reduced hydrocarbon and carbon monoxide emissions. Contact: William W. Miller, Jr., Director, Division of Public Transportation Operations, Department of Transportation, Haydon Burns Building, Tallahasse, FL 32304, (904) 488-8261.

822-23/REUSE OF ABANDONED RAIL FACILITIES

Problem Statement: There are many unused or underutilized railroad facilities in many center cities.

Solution Considerations: A partnership involving city governments, the railroads, and private developers could be formed to; (1) ascertain the railroads' remaining needs for space; (2) develop land use plans for surplus land and facilities; (3) discuss mechanisms for recycling or redeveloping surplus land and facilities.

FEDERAL PROGRAMS

The Department of Interior's Rail to Trails Program has provided funds for ten projects that involve the development of bicycle trails along abandoned rail lines. Funding has been authorized for additional projects. Contact: Mike Doyle, Recreation Planner, Heritage Conservation and Recreation Service, Department of Interior, 440 G Street, N.W., Washington, DC 20243, (202) 343-7801.

822-24/PARKING AND TRAFFIC ENFORCEMENT

Problem Statement: In many urban areas parking and traffic enforcement is perceived as a major governmental problem by officials whose responsibilities include the street transportation system or public safety. However, in many urban areas, only a relatively small amount of time and money is spent on parking and traffic enforcement. Lax enforcement results in the loss of revenue. Violation of many traffic laws can reduce the effectiveness of the transportation system.

Solution Considerations: Various methods of enforcing traffic and parking regulations need to be investigated. The effects and potential of using civilian parking aides or traffic agents as opposed to police to enforce regulations, methods of adjudication, various traffic control devices, the degree of productivity improvement that can be achieved by better parking and traffic enforcement, and the effects of an improved enforcement effort on system performance should be examined.

LOCAL PROGRAMS

Comprehensive Traffic Enforcement Program: The WASHINGTON, DC Department of Transportation, Bureau of Traffic Adjudication has a comprehensive traffic enforcement program. Tickets may be paid by mail, in person, and with a credit card. Disputes may be adjudicated by mail. The District has decriminalized all but the most serious traffic offenses. Vehicle registrations will not be renewed in face of unpaid tickets. Washington D.C. will be experimenting with civilian radar teams. **Contact:** Tom Downs, Director, D.C. Department of Transportation, Presidential Building, 415 12th Street, N.W., Washington, D.C. 20004, (202) 727-5847.

Selective Traffic Enforcement Program (STEP): BILLINGS, MT issues tickets, not warnings, for any violation (regardless of the severity of the violation) at intersections and on streets with high accident rates. Five officers are presently assigned to this program. **Contact:** Gene Kiser, City of Billings Police Department, Box 1554, Billings, MT 59103, (406) 245-8989.

Traffic Enforcement Committee: PORTLAND, ME has recently formed a committee responsible for reviewing areas with critical and reoccurring traffic problems. This committee is responsible for selecting the necessary corrective action and deployment of police manpower. **Contact:** William J. Bray, City of Portland, 3839 Congress Street, Portland, ME 04101, (207) 775-5451.

822-24/PARKING AND TRAFFIC ENFORCEMENT

FEDERAL PROGRAMS

FHWA's Office of Traffic Operations is concerned with the traffic engineering aspects of traffic safety and enforcement. Contact: Marshall Jacks, Jr., HTO-1, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0376.

FHWA's Office of Highway Planning is concerned with program planning and management. Contact: Gary Maring, HHP-33, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0210.

NHTSA's Office of Driver and Pedestrian Programs is concerned with all aspects of traffic safety and enforcement. Contact: Harold A. Butz, NTS-13, NHTSA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4913.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has prepared an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

822-25/TRANSPORTATION SYSTEM MANAGEMENT, AIR QUALITY, AND ENERGY CONSERVATION

Problem Statement: Many local governments are facing significant problems in trying to meet Clean Air Act Standards. Transportation System Management (TSM) has the potential for significantly reducing air pollution and energy use. Local conditions and needs dictate which TSM measures would be most effective.

Solution Considerations: The energy and economic tradeoffs of various TSM strategies, their effectiveness in reducing pollution and energy use, techniques for evaluating TSM strategies in local settings, and the potential for TSM in energy contingency planning must be examined. Case studies of exemplary, synergistic TSM programs should be prepared.

LOCAL PROGRAMS

Paratransit Programs: THE TIDEWATER TRANSPORTATION DISTRICT COMMISSION in NORFOLK-PORTSMOUTH, VA has developed a vanpool, carpool, and shared-ride taxi program to supplement peak period service, to reduce the need for transit subsidies, and to provide service in outlying areas. Contact: James. C. Echols, General Manager, TTDC, 509 E. 18th Street, P.O. Box 660, Norfolk, VA 23501, (804) 627-9291.

Ridesharing Corporation: HARTFORD, CT has formed a private non-profit corporation to promote high-occupancy vehicle use. Contact: Jonathan C. Coleman, Executive Director, Greater Hartford Ridesharing Corporation, Hartford, CT 06152, (203) 726-5966.

TSM and Parking Management: WASHINGTON, DC has developed a comprehensive parking management program combining numerous elements to encourage transit and HOV use and improve neighborhood quality. Contact: Tom Downs, Director, DC DOT, 415 12th Street, N.W., Washington, DC 20004, (202) 727-5847.

TSM and Parking Management: MADISON, WI has combined transit improvements and parking management measures to encourage transit use. Contact: Ross Patronsky, Project Manager, City of Madison DOT, 111 City/County Building, Madison, WI 53709, (605) 266-4761.

Transit Preferential Streets: SAN FRANCISCO, CA has designated transit preferential streets to improve bus movement. Contact: Glenn Erickson, Transit Preferential Streets Coordinator, Department of City Planning, 100 Larkin Street, San Francisco, CA 94102, (415) 558-5423.

822-25/TRANSPORTATION SYSTEM MANAGEMENT, AIR QUALITY, AND ENERGY CONSERVATION

The TSM Planning: THE MID-AMERICA REGIONAL COUNCIL of KANSAS CITY, MO, has developed a comprehensive TSM planning program. Contact: Hampton J. McDowell, III, Director, Mid-America Regional Planning Council, 20 West Ninth Street, Kansas City, MO 64105, (816) 474-4240.

Traffic Signalization Improvements: SAN ANTONIO, TX has used the TRANSYT signal timing model to optimize signal settings for traffic flow, energy use, and air pollution emissions. Contact: M. Taher Soomro, Department of Traffic and Transportation, City of San Antonio, P.O. Box, 9066, San Antonio, TX 78285, (512) 299-7720.

Alternative Work Schedules: THE DELAWARE VALLEY REGIONAL PLANNING COMMISSION has been working since 1970 to develop and implement alternative work schedule programs for Philadelphia's downtown core. Contact: Mr. Randy Brubaker, Delaware Valley Regional Planning Commission, 1819 J.F. Kennedy Boulevard, Philadelphia, PA 19103, (215) 507-3300.

Emissions Banking Programs: THE PUGET-SOUND AIR POLLUTION CONTROL AGENCY has developed an emissions control program for the Seattle-Tacoma area. Contact: Brent Carson, Puget-Sound Air Pollution Control Agency, 410 W. Harrison Street, P.O. Box 9863, Seattle, WA 98109, (206) 344-7330.

Emission Banking Programs: SAN FRANCISCO, CA has recently established an emission banking program for private firms in the Bay Area. Contact: Dan Goaliven, Chief, Permits Section, 939 Ellis Street, San Francisco, CA 94109, (415) 771-6000.

FEDERAL PROGRAMS

FHWA's Office of Highway Planning engages in extensive activities supporting TSM strategy development, planning, and implementation. Contact: Gary Maring, Chief, TSM Branch (HHP-32), 400 7th Street, S.W., Washington, D.C. 20590, (202) 426-0210.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has prepared an Information Bulletin addressing this need. Five regional TSM meetings were also held. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue Washington, D.C., 20004, Attention Transportation Staff, (202) 626-2423.

822-26/USE OF MINI-COMPUTERS FOR PLANNING

Problem Statement: Many small and medium-sized planning agencies, city departments, and transit agencies need improved information reporting and analysis capabilities to aid in daily decision-making. Often, large computers would be helpful, but budget restrictions prevent their use. Mini-computers are often affordable, but lack the necessary software for discrete planning needs. Software development is needed and should be shared among diverse users.

Solution Considerations: Mini-computer and micro-computer software development needs to be undertaken to address a number of planning needs including transit performance monitoring and reporting, transit scheduling and routing, equipment maintenance monitoring, and local government information systems.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives through Public Technology, Inc., has developed a financial expenditure program that works on a $250 hand-held computer. The program is designed for use by local units of government. A revenue-forecasting program is now being developed. Contact: Bruce Steinthal, Public Technology, Inc., 1301 Pennyslvania Avenue, N.W., Washington, DC 20004, (202) 626-2470.

822-27/MULTI-PURPOSE URBAN DATA BASE

Problem Statement: At the present time, there is a full range of information that is utilized for urban transportation and land use planning. Such information is also utilized in the management and operation of these systems. Quite often, models are used that do not have an accurate up-to-date information base and as a result cannot be used to validate a predictive model. But because of the magnitude of the required data, considerable time must be spent in acquiring and maintaining the data.

Solution Considerations: What management techniques are available for developing and maintaining an up-to-date and accurate data base?

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology Inc., is preparing several documents that will address this need. The documents include Census Computer Programs: An Introduction for Management and The Urban Transportation Planning System (UTPS): An Introduction for Management. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

822-28/ECONOMIC IMPACTS OF TRAFFIC RESTRICTIONS

Problem Statement: Many local government officials and merchants are concerned about the effects of traffic restrictions on the economic vitality of a downtown area.

Solution Considerations: The economic and market impacts of various restrictions including parking supply ceilings, non-market parking cost increases, neighborhood traffic controls, auto free zones, and traffic engineering controls should be analyzed.

LOCAL PROGRAMS

An Auto Restricted Zone: BOSTON, MA's Downtown Crossing, a 25 block auto restricted zone, has had little or no adverse effect on pedestrian traffic, visits to the area, or sales volumes. Contact: Jane Algmin, Boston Redevelopment Authority, City Hall - 9th Floor, Boston, MA 02201, (617) 722-4300, ext. 266.

The Economic Impacts of State Street Mall: MADISON, WI is currently examining this issue. Contact: Ross Patronsky, Project Manager, Department of Transportation, City of Madison, III City-County Building, Madison, WI 53709, (608) 266-4761.

An Evaluation of the Retail Business Impacts: MEMPHIS, TN's Mid-America Mall is being evaluated to determine its impacts on retail business. Contact: Fred Gilliam, General Manager, Memphis Area Transit Authority, 701 North Main Street, P.O. Box 122, Memphis, TN 38101, (901) 528-2887.

FEDERAL PROGRAMS

UMTA's Office of Service and Methods Demonstration is concerned with impacts of various types of auto-restricted zones and transit and pedestrian malls. An evaluation of three transit malls, Nicollett Mall in Minneapolis, Chestnut Street Transitway in Philadelphia, and Portland Mall in Portland, Oregon has been completed. Contact: Ronald J. Fisher, UMTA, SMD, UPM-30, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4995.

822-28/ECONOMIC IMPACTS OF TRAFFIC RESTRICTIONS

FHWA's Office of Highway Planning is concerned with parking management strategies and analyses, and the integration of highway projects and urban needs. Contact: Wayne Berman, HHP-32, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0210.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has prepared an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

822-29/ALTERNATIVE FUELS

Problem Statement: Given rising fuel costs and the uncertainties as to the availability of fuel, alternative fuels need to be identified, and the pros and cons of these fuels need to be examined.

Solution Considerations: Data on the use of alternative fuels should be collected and analyzed. Pilot tests of the effectiveness of new alternative fuels should be conducted and the results disseminated.

STATE PROGRAMS

Methanol Tests: FLORIDA's Department of Transportation has received a Federal grant to test methanol as alternative diesel fuel. If tests on several state diesel buses prove successful, the entire fleet of a local bus property will be converted and tested for methanol use. **Contact:** William W. Miller Jr., Director, Division of Public Transportation, Haydon Burns Building, 605 Swanee Street, Tallahassee, FL 32304, (904) 488-8261.

Gasohol Use: NEW YORK STATE's Office of General Services has published a report documenting the results of tests of the use of gasohol in motor vehicles. **Contact:** James C. O'Shea, Commissioner, New York State, Office of General Services, Tower Building, Albany, New York, 12242, (518) 474-2121.

FEDERAL PROGRAMS

The U.S. National Alcohol Fuels Commission has issued its final report, *Fuel Alcohol: An Energy Alternative For The 1980's*. **Contact:** Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 275-2051. (Available for sale at cost.)

822-30/SOCIAL IMPACT OF NEW MAJOR TRANSPORTATION FACILITIES

Problem Statement: New transportation facilities and other large public works often have substantial impacts on community social structures and the general quality of life of those living or working near the facilities. This impact may be particularly apparent in central cities. At present, methods for measuring and evaluating these impacts are poorly developed, although some research has been conducted. As a result, social impacts are frequently dismissed as unquantifiable externalities in project evaluation and decision-making.

Solution Considerations: Research needs to focus on existing and potential methodologies for social impact assessment, including data needs, techniques, and means for incorporating measures of social impacts into project evaluations.

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823 Transportation System Management--Priority Treatment of High-Occupancy Vehicles

823-1/PREFERENTIAL AND EXCLUSIVE LANES

Problem Statement: Local governments often cannot afford the major capital investments necessary to provide better transit services. One effective interim step appears to be the provision of preferential or exclusive lanes for high-occupancy vehicles. Local decision-makers need more information on existing experiments, as well as an assessment of potential applications.

Solution Considerations: Planning procedures and guidelines for different types of treatments, based on actual experiences, are needed. The emphasis should be on institutional arrangements, as well as on technical considerations.

LOCAL PROGRAMS

Contraflow and Bus-Carpool Priority Lanes: DADE COUNTY, FL has experimented with several techniques since 1974, some of which have been linked with signal progressions or bus signal preemption. The county has discontinued techniques that proved too costly and modified others to improve cost-effectiveness. The program has significantly improved transit travel times and increased the percentage of transit trips. Contact: Ellen McCarthy Casebeer, Office of Transportation Administration, 44 West Flagler Street, 11th Floor, Miami, FL 33130, 305/579-5669.

Preferential and Exclusive Lanes: SAN JOSE, CA. The City and the transportation agency in a joint project have developed a short-range transportation program for buses using exclusive lanes Contact: Gary Thompson, Public Works Department, 801 North First Street, San Jose, CA 95110, 408/277-5161.

FEDERAL PROGRAMS

FHWA technical assistance in this area is available from two offices. Contact: Public Transportation Management Division, HHP-30, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-0210; or Ali F. Sevin, Environment and Public Transportation Branch, HNG-25, 400 7th Street, S.W., Washington, DC 20590, 202/426-0306.

823-1/PREFERENTIAL AND EXCLUSIVE LANES

UMTA's Office of Service and Methods Demonstration sponsors demonstration projects in this area. Contact: Joe Goodman, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4984.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives, acting through Public Technology, Inc., has developed a manual on planning and implementing priority techniques. The manual includes an Executive Summary for decision-makers, a Management Report for managers responsible for the main elements in a local government's transportation system, and a Technical Guide for local employees charged with implementing the techniques. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Transportation Staff, 202/626-2400.

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has published a series of SMD Briefs on the UMTA-funded priority treatment demonstrations in Buffalo, NY and Houston, TX. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

823 Transportation System Management--Priority Treatment of High-Occupancy Vehicles

823-2/SIGNAL PREEMPTION

Problem Statement: To attract the commuter to mass transit, it is necessary to show some advantage of transit use that compensates for its lack of convenience vis-a-vis the auto. Travel time savings could be achieved by the use of signal preemption equipment on buses. Such preemption devices also could be used by emergency vehicles to reduce accidents and to speed their trips.

Solution Considerations: A good solution would seem to be a device for communicating directly with individual signals which 1) would hold an existing green or change red to green, 2) would return the signal to normal timing after the preemptive vehicle has passed, 3) would be relatively durable and easy to maintain, and 4) would be compatible with computerized signal systems.

LOCAL PROGRAMS

Experiments With Signal Preemption Devices: JEFFERSON COUNTY, KY, in cooperation with the City of Louisville and the local transit agency, increased the speed and ridership on mass transit vehicles by installing signal preemption devices at intersections leading into and out of the CBD. Contact: John Woodford, Transit Authority of River City, Room 302, Speed Building, 333 Guthrie Street, Louisville, KY 40215, 502/587-3642.

Priority Roadway Ensurement for Public Systems: SANTA CLARA COUNTY, CA's Transportation Agency installed 3M Opticom Emitters on 20 buses. These buses operate on one 18- to 22-minute fixed arterial route, a major portion of which uses a major expressway. Twelve signalized intersections along the expressway have been equipped with preemptive equipment. The buses use the equipment only to maintain schedules if they fall behind. This system 1) holds an existing green or changes red to green, 2) returns the signal to normal timing after the bus has passed, 3) is durable and easy to maintain, and 4) is compatible with computerized signal systems. No specific problems with the system have been encountered. Contact: Louis Montini, Santa Clara County Transportation Agency, 1555 Berger Dr., San Jose, CA 95112, 408/299-2362.

Signal Preemption Demonstration: MIAMI, FL, in cooperation with the Florida Department of Transportation and the UMTA Service and Methods Demonstration Program, operates a bus priority system through 35 signalized intersections over a 10-mile section of N.W. 7th Avenue in Miami. The traffic signals receive preemptive instructions from Opticom equipped buses. Contact: Bill Knowles, Jr., Division of Public Transportation Operations, Florida Department of Transportation, 780, S.W. 24th Street, Ft. Lauderdale, FL 33315, 305/524-8621.

Signal Preemption Program: JACKSONVILLE, FL has installed an Opticom priority signalization system in an 8-mile travel corridor which has 13 intersections and feeds into the proposed high-occupancy-vehicle lane on Interstate 10. The introduction of bus service through this corridor was based on the installation of the signal preemption device. Four parallel bus routes will be routed into this corridor during peak hours, when the signal preemption device will be in operation. Contact: Jack K. Johnson, Jacksonville Transportation Authority, 1022 Prudential Drive, Jacksonville, FL 32207, 904/633-2643.

Traffic Signal Preemption Design for Express Buses: The MEMPHIS AREA TRANSIT AUTHORITY is installing a traffic signal preemption system on Poplar Avenue, a high-traffic-volume corridor, that will expedite the flow of peak-hour express buses. Existing traffic signals at 23 intersections will be modified with an optically-sensitive device that will be triggered by a signal from the express buses. The traffic light will be changed from red to green, or the time of green light will be extended to permit the bus to clear the intersection. Contact: Phil McBride, Memphis Area Transit Authority, P.O. Box 122, 701 N. Main Street, Memphis, TN 38101, 901/528-2894.

Urban Corridor Demonstration Program--Bus Priority: DALLAS, TX is installing a signal preemption system that will include bus detectors and bus preemption features. A digital computer will control over 62 signalized arterial intersections; 38 of these will be located on 3 major arterials. Contact: Mildred Cox, Office of Transportation Programs, 5C, South, 1500 Marilla, Dallas, TX, 75201, 214/670-4028

FEDERAL PROGRAMS

UMTA's Office of Service and Methods Demonstrations is currently sponsoring a number of signal preemption projects. Contact: Joe Goodman, UMTA, UPM-30, 400 7th Street, S.W., Washington, DC, 20590, 202/426-4984.

823 Transportation System Management--Priority Treatment of High-Occupancy Vehicles

823-3/FRINGE PARKING AND EXPRESS BUSES

Problem Statement: Park and ride lots have been provided by a number of transit agencies. The purpose has been to expand the market area, and thereby increase ridership. Guidelines are needed for designing fringe parking, express bus projects, and other facilities that involve transfers between travel modes.

Solution Considerations: 1) Simulate a transit line and its market area and test the effect of providing park and ride facilities. 2) Implement a test case and conduct before-and-after studies to determine the effect on ridership. 3) Conduct an analysis of existing park and ride services to determine the effect on transit ridership.

LOCAL PROGRAMS

Bus-Rail Access Study: THE NORTHEASTERN ILLINOIS REGIONAL TRANSPORTATION AUTHORITY is currently examining a number of options to improve access to the Chicago CBD, including expanded commuter parking facilities and improved feeder bus service at suburban commuter rail stations. Contact: Howard Permut, Regional Transportation Authority, Development Planning Department, 300 North State Street, Chicago, IL 60610, 312/836-4116.

Expressway Busway: SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT. An exclusive roadway for express buses and carpools is in operation for 11 miles of the San Bernardino Freeway. The busway features a terminal station in El Monte, with parking for 1500 cars, and 2 on-line stations at activity centers along the busway. Approximately eighteen thousand riders use the busway daily. Contact: Paul C. Taylor, Southern California Rapid Transit District, 425 S. Main, Los Angeles, CA 90013, 214/972-6170.

Fringe Area Parking Study: CHICAGO, IL is concluding a study to determine the potential costs and benefits of setting up fringe parking lots close to the CBD. Recommendations for central area parking policy will be made and other CBD policies will be evaluated. Contact: Pamela Dunlop, Department of Planning, City and Community Development, City Hall, Room 1006, Chicago, IL 60602, 312/744-6540.

823-3/FRINGE PARKING AND EXPRESS BUSES

Fringe Parking Lot Study: PRINCE GEORGE'S COUNTY, MD hired a consultant to recommend permanent fringe parking lot sites that will serve as feeders via bus to rail stations. The County is concurrently looking at possible short-term fringe parking sites along existing bus routes that presently feed into rail stations and have the potential to increase ridership significantly. Contact: William T. Potts, Department of Public Works and Transportation, County Administration Building, Upper Marlboro, MD 20870, 301/952-4280.

Park and Ride Bus Service: SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT provides park and ride bus services from a dozen widely-scattered public and private parking lots into the central business district. Approximately five thousand bus riders use these services daily. Contact: Paul C. Taylor, Southern California Rapid Transit District, 425 S. Main, Los Angeles, CA 90013, 213/972-6170.

STATE PROGRAMS

Park and Ride Lots: The State of Georgia, along with counties in metropolitan Atlanta, is designing a series of park and ride lots as collection points for Atlanta's expanding transit system. The program involves the construction of approximately 44 small lots, with parking capacity of from 200 to 400 vehicles, to be located along highways and other major arterials. Operation of some lots is expected to begin in 1980. Contact: Scott Harris, Department of Transportation, State of Georgia, No. 2 Capitol Square, Atlanta, GA 30334, 404/656-6000.

FEDERAL PROGRAMS

FHWA's Environment and Public Transportation Branch can provide technical assistance on this topic. Contact: Ali F. Sevin, HNG-25, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-0306.

FHWA's Public Transportation Management Division provides information in this area. Contact: Donald Morin, HHP-30, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-0210.

UMTA's Office of Planning Methods and Support provides manual and computerized analytical methods which help assess the potential for park-and-ride opportunities. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9271.

UMTA's Office of Service and Methods Demostrations sponsors demonstration projects involving park and ride fringe parking facilities. Contact: Joe Goodman, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4984.

ADDITIONAL PROGRAMS

Fringe Parking Project: The University of California, Berkeley, CA has established a 150-automobile space fringe parking lot in East Oakland to serve low income persons, students, and University employees. The University is the largest employer in the East Bay, generating approximately eighty thousand trips per day. At present, the travel corridor between Oakland and the University is covered by minimal public transportation services. A van shuttle bewtwen the University and the lot is operated by campus employees during peak commuter hours. A midday shuttle is operated by a hired part-time dirver. Contact: Amy Linden, University of California, Berkely, Transportation Services, 1952 Oxford Street, Berkeley, CA 94720, 415/642-1825.

The Urban Consortium for Technology Intiatives Transportation Task Force, through Public Technology, Inc., has published a series of SMD Briefs on the UMTA subscription express bus demonstration in Los Angeles. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004 Attention: Transportation Staff, 202/ 626-2400.

824 Transportation System Management--Special Facilities and Institutional Measures

824-1/PARKING MANAGEMENT AND FLEXIBLE PARKING REQUIREMENTS

Problem Statement: The development, placement, and management of parking facilities is not always consistent with overall transportation goals and objectives. Parking supply, location, and price, and time limits for on- or off-street parking all affect highway and transit usage. Specific parking issues requiring exploration include: 1) the retention of adequate curb parking space for residents of congested neighborhoods, 2) the relationship between parking rate structure, parking policy, and transportation mode choice, 3) better information about parking garage design and operation, 4) determining the impact of CBD parking controls on: (a) the competitive position of the CBD with respect to suburban activity centers and (b) the degree of transportation mode shift to transit and high-occupancy vehicles, and 5) flexible parking requirements based on changing parking needs and the availability of transit and ridesharing programs, joint-use opportunities, and on-street parking, rather than requirements traditionally set by zoning and building codes.

Solution Consideration: 1) Transportation system planning and management should consider a) subsidization of carpool parking, b) differential taxation for commuter parking, c) shifting of long-term parking to the fringes of activity centers and CBD's, d) parking rate regulation, and e) integrated ride-matching and parking programs. 2) Research into priority parking for neighborhood residents should examine legal, implementation, and enforcement problems of prohibiting parking on certain streets except for residents. 3) A parking garage design and operation survey should (a) identify critical factors and (b) facilitate dissemination of information on local experiences. 4) The effects of prior rate structure and policy changes on modal choice should be analyzed and data collected for the development of guidelines for future decision making.

LOCAL PROGRAMS

Carpool Preference Parking Program: BALTIMORE, MD has turned urban renewal sites awaiting development into successful commuter parking lots. Between the hours of 7:00 A.M. and 12:00 P.M. metered lots serving CBD commuters have been restricted to registered carpools. As a result, carpoolers get first chance at these spaces. Approximately 450 spaces are utilized and more spaces are being developed. Contact: Hugo O. Liem, Department of Traffic and Transit, 414 North Calvert Street, Baltimore, MD 21202, 301/396-3010.

Residential Parking Permit Program: CHICAGO, IL has a program in which parking on 27 blocks in a single-family residential area has been restricted to residents and their guests. This experimental program has solved the problem of students from a nearby university monopolizing these parking spaces. Annual permits are sold to residents for $10 for each auto in the household. Residents may purchase a packet of one-day permits for guests at the local police station. Contact: John McCue, Department of Streets and Sanitation, City Hall, Room 703, Chicago, IL 60602, 312/744-4693.

Study Team Strategy: LOS ANGELES, CA has developed a list of strategies, including a high-occupancy-vehicle program, allowing parking waivers, private and public employee incentives to use public transportation, and parking garage design proposals to minimize emitted pollutants. This program is based on a reduction of parking facility requirements by the city on the assurance that the private developer will provide commuter alternatives such as vanpool programs at his own expense. Contact: Graham Smith, Office of the Mayor, City Hall, Room 1400, Los Angeles, CA 90012, 213/485-3365.

Zoning Code Requirements: SEATTLE, WA has a grant from the Environmental Protection Agency for a consultant study to examine formalizing flexible parking requirements in the zoning code. Contact: Jim Parsons, Chief Transportation Planner, Office of Policy and Evaluation, City of Seattle, 300 Municipal Building, 4th and James Street, Seattle, WA 98104, (206) 625-4591.

Parking Requirement Elimination: SAN FRANCISCO, CA no longer has a minimum parking requirement. The City Planning Commission approval is required for any structure where parking is proposed for more than seven percent of the gross floor area. Contact: Alan Lubliner, Center City Circulation, Project Manager, Department of City Planning, City of San Francisco, 100 Larkin Street, San Francisco, CA 94102, (415) 558-5423.

Central City Parking Restriction: CHICAGO, IL has changed its zoning ordinance to create a Central Area Parking District within which parking is permitted only as an accessory use. Floor area bonuses are provided for buildings that include hook-ups to pedestrian facilities and mass transit. Contact: Kitty Freidheim, City Planner, Department of Planning, City Hall, 121 LaSalle Street, Chicago, IL, 60602.

Parking Ceiling Set: PORTLAND, OR has set a lid on the number of parking spaces that are permitted in its CBD. The program has reduced the amount of parking being provided in conjunction with new developement. Contact: Michael Fischer, Transportation Planner, Bureau of Planning, 421 SW Adler, Portland, OR 97204, (503) 248-4254.

824-1/PARKING MANAGEMENT AND FLEXIBLE PARKING REQUIREMENTS

FEDERAL PROGRAMS

FHWA's Transportation System Management Branch conducts extensive research in parking management. A recent project is a comprehensive state-of-the-art guidebook on parking management. It will include a framework for developing a parking management strategy, a guide to planning tools and methods, suggested procedures for developing and operating parking management actions, and an assessment of the energy, environmental, transportation, and other impacts of parking management actions. Contact: Transportation Systems Management Branch, HHP-32, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-0210.

UMTA's Office of Planning Methods and Support distributes analytical methods which help assess the potential for various parking management strategies. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4271.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., is developing a technical report on Parking Management. This report will describe the state-of-the-art of parking management in the United States. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, D.C., 20004, Attention: Transportation Staff, 202/626-2423.

824 Transportation System Management--Special Facilities and Institutional Measures

824-2/AUTO USE RESTRICTIONS

Problem Statement: The joint UMTA-FHWA planning regulations require consideration of Transportation Systems Management measures, such as auto use restrictions, in conjested areas. Information on existing projects, new ideas, and evaluation criteria are needed.

Solution Considerations: 1) The relationship between land development and auto restrictions should be recognized. 2) The public information aspects of implementing any auto use restriction must be considered. 3) Means for determining reductions in vehicle miles of travel and peak-hour lane volume reductions resulting from auto restrictions are needed.

LOCAL PROGRAMS

Automobile Diversion: DENVER, CO. A report has been prepared covering the potential of automobile diversion as a Transportation System Management strategy to reduce vehicle use in congested areas or in areas that are particularly sensitive to traffic impacts on land use and social conditions. **Contact**: Ron Borowski, Head, Transportation Planning, Denver Planning Office, 1445 Cleveland Place, Denver, CO, 303/575-3375.

Auto Restricted Zone Project: THE MEMPHIS AREA TRANSIT AUTHORITY has a three phase project currently underway. The first phase involves the construction of a bus passenger terminal in the CBD at a major loading point. The second phase consists of shuttle bus service between the Medical Center (a major employment center) and the CBD. The final phase encompasses the improvement of sidewalks leading to and from the Mid-America Mall. This project is an UMTA Service and Methods Demonstration Project. **Contact**: Phil McBride, Memphis Area Transit Authority, P.O. Box 122, 701 North Main Street, Memphis, TN 38101, 901/528-2894.

824-2/AUTO USE RESTRICTIONS

Auto-Restricted Zones and Street Closures: CHICAGO, IL. A report provides information on the status of auto-restricted zones in the Chicago metropolitan area and discusses their suitability for use in other communities in the region. Contact: John Henry Paige, NIPC, 400 W. Madison, Chicago, IL, 312/454-0400.

Downtown Crossing: In BOSTON, MA the Downtown Crossing covers a contiguous area of about 25 blocks where auto traffic has been totally or partially restricted. All curb parking within this area has been eliminated. Transit malls and reserved contraflow bus lanes provide a nearly exclusive bus loop through the area, with greatly increased pedestrian amenity. Contact: Susan Clippinger, Boston Department of Traffic and Parking, 1 City Hall Square, Boston, MA 02201, 617/725-4684.

Residential Permit Parking Program: WASHINGTON, DC has significantly enhanced neighborhoods by restricting commuter parking on residential streets. Neighborhood residents obtain a windshield parking permit from the City that enables them to park all day. Any car not displaying a permit is limited to two hour parking. Citizen support has enabled the program to expand and become an element in the transportation control plan. Contact: John Brophy, Department of Transportation, 139 E Street, Room 926, Washington, D.C. 20004, 202/727-9193.

FEDERAL PROGRAMS

FHWA's Transportation System Management Branch deals with auto restrictions as part of its TSM responsibilities. Contact: FHWA, Transportation Systems Management Branch, HHP-32, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/426-0210.

UMTA's Office of Service and Methods Demonstrations has studied auto-restricted zones. Contact: Joe Goodman, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4984.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task force, through Public Technology, Inc., has published a series of SMD Briefs on the Auto-Restricted Zone Demonstrations in Boston and Memphis. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004 Attention: Transportation Staff, 202/626-2400.

824-3/INTEGRATION OF BICYCLES WITH PUBLIC TRANSPORTATION

Problem Statement: A major opportunity for bicycle transportation that has been largely overlooked is the bicycle/mass transit interface. The lack of safe and secure bicycle parking at transit stops and stations strongly discourages use of the bicycle as a feeder mode. Generally bicycles are not allowed on transit vehicles, limiting use of the bicycle as a combined feeder/distribution mode.

Solution Considerations: Provision of secure bicycle parking along transit routes could allow improved transit access in low density areas and could reduce automobile parking requirements at park and ride lots. The Japanese and European experiences with bicycle access to transit have been overwhelmingly favorable. Bicycles could serve as a major feeder mode to transit in energy shortages, although this potential function has been largely overlooked.

LOCAL PROGRAMS

Bicycles on Subways and Trains: THE BAY AREA RAPID TRANSIT (BART) in San Francisco, California, has a highly successful program to integrate the bicycle with rail transit. Bike lockers and racks have been placed at most BART stations. Riders who have licensed bicycles (which subjects them to periodic safety inspection) can obtain permits to carry their bikes onto BART trains during non-peak periods and on selected non-peak-direction portions of lines in the peak periods. The program has been very favorably received in the community; over 9,000 people have obtained these BART permits over the past five years. Contact: Starla Bahem, BART, 800 Madison Street, Oakland, CA 94605, (405) 465-4100 Ext. 569.

STATE PROGRAMS

Bike Racks for Transit Buses: The CALIFORNIA Department of Transportation, in cooperation with the San Diego Transit Corporation, has installed bicycle racks on the rear of transit buses to transport bikes over routes where riding is prohibited, such as toll bridges. Contact: Carl Stewart, Office of Facilities Research, Caltrans, Department of Mass Transit, State of California, P.O. Box 1499, Sacramento, CA 95807, (916) 322-1413.

824-3/INTEGRATION OF BICYCLES WITH PUBLIC TRANSPORTATION

FEDERAL PROGRAMS

UMTA's Office of Service and Methods Demonstrations is currently sponsoring a demonstration project in Santa Barbara, CA that uses bicycle trailers towed behind buses of the Santa Barbara Metropolitan Transit District. The SBMTD has also provided extensive bicycle parking along bus routes. Cyclists can bike to the bus and either park or take their bicycle along to continue the trip. Contact: Gary Gleason, SBMTD, P.O. Box 355, Santa Barbara, CA 93102, (805) 963-3364.

U.S. DOT's Office of Environment and Safety can provide information on other applicants of bicycle-transit integration, along with guidance on funding sources and technical assistance. Contact: Maureen Craig, Bicycle Program Coordinator, U.S. DOT, OST-P23, 400 7th Street, S.W., Washington, D.C. 20590, (202) 426-4414.

824-4/PEDESTRIAN SAFETY, AMENITIES, TRANSIT ACCESS, AND GENERAL MOVEMENT

Problem Statement: Pedestrian environments are being improved in many CBD's. However, pedestrain safety remains a major concern of many City officials. In some cities, pedestrains account for nearly one-half of the motor vehicle-related deaths. The safety and ease of pedestrain movement should be improved and plans should consider improved pedestrian access to public transportation facilities.

Solution Considerations: 1) Enforcement of traffic regulations, pedestrain overpasses, removal of sidewalk obstacles, relocatred cross-walks, and signal phasing changes should be explored. 2) Pedestrain amenities might include moving sidewalks, speed ramps, and outdoor escalators; use of building arcades; escalators at mid-block pedestrain crossings; covered walkways, and public- private investment to improve sidewalk aesthetics. 3) A detailed inventory of transit and pedestrian malls should examine various types of malls, means of separation of pedestrian and transit vehicles, access requirements, and effects on commercial activities.

LOCAL PROGRAMS

Access Management/Project Review: SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT identifies, evaluates, and comments on projects and planned proposals that could adversely affect transit operations or effectiveness. This review is supported by research and development of access management techniques that can be applied by government and the private sector to reduce automobile dependence. Contact: Paul C. Taylor, Southern California Rapid Transit District, 425 S. Main, Los Angeles, CA 90013, (213) 972-9170.

Broad Street Transit Mall: ATLANTA, GA, in conjunction with the Metropolitan Atlanta Rapid Transit Authority and the Urban Mass Transportation Administration through their Urban Initiatives program, is constructing a transit mall above a portion of Atlanta's rapid transit line in the CBD. The design of the 5-block mall varies from block to block. One block will permit buses but exclude other vehicles, two blocks will permit all types of traffic, and two blocks will be limited to pedestrians. The mall will provide improved access to the downtown bus and trains. The mall will provide open space in the congested downtown area. Contact: Cathy Thomas, City of Atlanta, Bureau of Planning, 10 Pryor Street, Atlanta, GA 30303, (404) 685-6306.

824-4/PEDESTRIAN SAFETY, AMENITIES, TRANSIT ACCESS, AND GENERAL MOVEMENT

Fairlie-Poplar: ATLANTA, GA, in cooperation with Central Atlanta Progress, Inc., and private developers, is implementing a program to revitalize a 21-block area in Atlanta's CBD. Planned improvements include pedestrian malls, a minibus loop system, new residential development, widened sidewalks, and landscaping. Funding for the planning and design of the project has been provided by contributions from private property owners and through Community Development Block Grant funds. Construction is scheduled to begin early in 1980. Contact: Larry Fonts, Central Atlanta Progress, Inc., First National Bank Tower, 2 Peachtree Street, Atlanta, GA 30303, (404) 658-1877.

The Pedestrian in Downtown Denver: DENVER, CO. A study identifies existing and proposed pedestrian facilities within downtown Denver, reviews their appropriateness, and offers recommendations to increase access to, and the attractiveness of walking within the downtown area. Contact: Ron Borowski, Transportation Planning, Denver Planning Office, 1445 Cleveland Place, Room 400, Denver, CO 80202, (303) 575-3375.

Pedestrian Movement: BALTIMORE, MD uses time-lapse cinematography to analyze pedestrian movement accross intersections with heavy traffic. Contact: Sidney Brower, Department of Planning, 222 E. Saratoga Street, 8th Floor, Baltimore, MD 21202, (301) 396-4367.

Pedestrian Overpass Feasibility: KANSAS CITY, MO compared the costs and benefits of an existing pedestrian-activated signal with viaduct alternatives. Analysis showed that the savings in accident reduction compensated for the cost of viaduct construction. Contact: Keith Graham, Transportation Department, City Hall, 23rd Floor, Kansas City, MO (816) 274-2433.

Pedestrian Safety Program: MEMPHIS and SHELBY COUNTY, TN have initiated a pedestrian safety program for elementary school children. As part of the program, 35,000 safety coloring books are being distributed to children in grades K-3. Film loops and cassette tapes are being issued to public schools for use by grades 4-6. As a result of this program, the number of pedestrian accidents in 1977 was less than any year since 1972. Contact: Ron Marshak, Traffic Safety Coordinating Committee, Suite 300, 161 Jefferson, Tenoke Building, Memphis, TN 38103, (901) 528-3068.

Pedestrian Way Plan: LOS ANGELES, CA is preparing--for adoption by the city council--a CBD pedway plan as an element of the General Plan. This plan will be used as a guide for new development in the CBD. The main points of this plan include preservation of rights-of-way for, and construction of, pedways. Contact: Calvin S. Hamilton, City Planning Department, City Hall, Room 561C, Los Angeles, CA 90012, (213) 485-5073.

Safety Planning for Public Education: MEMPHIS, TN, through the use of news media, local TV spots, public school lectures, brochures, etc., is trying to increase public awareness of the seriousness of drunk driving. Contact: Debbie Neal, Traffic Safety Coordinating Committee, 161 Jefferson Square, Suite 300, Memphis, TN 38103, (901) 528-3068.

824-4/PEDESTRIAN SAFETY, AMENITIES, TRANSIT ACCESS, AND GENERAL MOVEMENT

Trail Plan: ANCHORAGE, ALASKA is coordinating the Trails Plan with transit-corridor planning to enhance pedestrian access to transit routes. One goal is to incorporate pedestrian access requirements in subdivision regulations. Contact: Stanley Green, Department of Planning, Pouch 6-650, Anchorage, AK 99502, (907) 264-4251.

Comprehensive Pedestrian Safety Program: DADE COUNTY, FL's pedestrian safety program involves public information messages, an instruction program for school children, and police enforcement. Contact: Miles Moss, Dade County Traffic and Transportation Department, 7100 North 36th Street, Miami, FL 33166, (305) 592-0830.

Pedestrian Safety Program: DENVER, CO's pedestrian safety program is run by its police department. The program consists of public information and education, enforcement, and engineering. Contact: Detective Tom Heath, Denver Police Department, 1331 Cherokee Street, Denver, CO 80204, (303) 575-5722.

Pedestrian Safety Program: NEW YORK, NY's pedestrian safety program can claim success because in 1979 pedestrian fatalities were the lowest in 50 years. Contact: Samuel Schwartz, Assistant Commissioner, New York City Department of Transportation, 51 Chambers Street, New York, NY 10007, (212) 566-2980.

Pedestrian Safety Coordinator: WASHINGTON, DC has established the position of a full-time pedestrian safety coordinator within its transportation department. Contact: J.W. Lanum, Pedestrian Safety Coordinator, D.C. Department of Transportation, 415 12th Street, N.W., Washington, DC 20004 (202) 727-5777.

FEDERAL PROGRAMS

FHWA's Environment and Public Transportation Branch provides technical assistance and programming advice. Contact: C.L. King, HNG-25, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0306.

FHWA's Implementation Division: A model pedestrian safety program manual is available through the Government Printing Office for $4.50. It describes the pedestrian safety problem, lists 24 possible countermeasures, discusses the selection from among alternatives, and describes how effectiveness evaluations can be performed. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590.

FHWA's Implementation Division has consolidated available data and research into A Manual for Planning of Pedestrain Facilities (Implementation Package 74-5, June 1974; National Technical Information Service # PB 241053/AS, $4.75). The guide addresses evaluation of the costs and impacts of pedestrian facilities, factors influencing pedestrian movement, pathway choice, and facility utilization. Contact: Robert Betsold, HDV-20, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9230.

824-4/PEDESTRIAN SAFETY, AMENITIES, TRANSIT ACCESS, AND GENERAL MOVEMENT

RSPA's Office of University Research is sponsoring several research projects in this area including Improving Pedestrian Crosswalk Safety on One-Way Street Networks. Contact: Marx Elliot, NRM-11, NHTSA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-2720.

UMTA's Office of Service and Methods Demonstrations conducts studies and demonstrations on transit and pedestrian malls. Contact: Joe Goodman, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4984.

ADDITIONAL PROGRAMS

The Institute for Environmental Action has produced a series of reports on transit and pedestrian malls, including Traffic Free Zoning: An Appraisal; American Urban Malls: A Compendium; Banning the Car Downtown; and Handbook for Pedestrian Action. Contact: Institute for Environmental Action, 81 Leonard Street, New York, NY 10013, (212) 966-6390.

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has developed two Information Bulletins dealing with this need. The first, Pedestrian Movement, focuses on strategies for improving the urban environment for pedestrians. The second, Pedestrian Safety, covers common types of pedestrian accidents, basic countermeasures, planning and safety programs, and Federal funding.

824-5/IDENTIFICATION OF WHEELCHAIR RAMPS

Problem Statement: Some State statutes require that wheelchair curb ramps have some type of identification.

Solution Consideration: Ramps might be identified by an economical, non-skid color material affixed to the surface.

LOCAL PROGRAMS

Wheelchair Ramps: SAN JOSE, CA is presently installing wheelchair ramps throughout the city. A unique surface treatment enables blind pedestrians to locate the ramps. **Contact:** Ed Louis, Department of Public Works - Transportation, 801 No. First Street, San Jose, CA 95110, 408/277-4304.

824-6/CARPOOL, STAGGERED WORK HOURS, AND FOUR-DAY WEEK PARTICIPATION MEASURES

Problem Statement: Information is needed on participation in and impacts of carpooling, staggered work hours, and four-day work week programs.

Solution Considerations: 1) Data base must enable analysts to determine the extent of regional participation. 2) Analytical techniques are needed to evaluate impact on total travel and travel patterns. 3) An information system is needed to monitor significant changes. 4) The effects of flextime on pooling programs should be determined.

LOCAL PROGRAMS

Carpool Program during Transit Strike Emergencies: PHILADELPHIA, PA made arrangements for bank offices to post a poster display containing pocket-size questionnaires and information on how best to find alternative means of traveling to the center city area during a transit strike. The banks arranged to collect the questionnaires for carpool information, for a drop at the computer facility, where further coding, batch processing and mailing to distressed commuters took place. Citizens were given names and telephone numbers of neighbors who had similar work destinations and work arrival times during the transit strike emergency. Contact: Ira Pierce, Delaware Valley Regional Planning Commission, Penn Towers Building, 1819 J.F. Kennedy Blvd., Philadelphia, PA 19103, 215/567-3000.

Four-Day Work Week: LOS ANGELES, CA is experimenting with a four-day work week. Several offices, including the city planning office, are participating in this pilot program. Thus far, the program has resulted in improved employee morale as well as reduction in sick leave. Contact: Calvin S. Hamilton, City Planning Department, City Hall, 561-C, Los Angeles, CA 90012, 213/485-5073.

824-6/CARPOOL, STAGGERED WORK HOURS, AND FOUR-DAY WEEK PARTICIPATION MEASURES

Rideshare Information: DALLAS, TX's rideshare office has contacted major employers and displayed posters in an effort to encourage ridesharing. Interested individuals and employees complete a questionnaire and in turn receive carpool match lists and/or bus information. Vanpool matching information is available to employers wishing to establish a program. Since the program's inception in 1974, over 30,000 persons have been provided with rideshare information. Contact: Jim Havens, Office of Transportation Programs, 5C South, 1500 Marilla, Dallas, TX, 75201, 214/ 670-4038.

Ridesharing Service Program: THE NORTHEASTERN ILLINOIS REGIONAL TRANSPORTATION AUTHORITY for the past two years has been looking at a whole spectrum of ridesharing services, including carpooling and vanpooling. RTA is offering region-wide ridesharing technical assistance to help employers implement ridesharing programs. Contact: Dale Fitschen, Regional Transportation Authority, Operational Planning Department, 300 North State Street, Chicago, IL 60610, 312/836-4126.

Staggered Work Hours and Ridesharing Programs: THE DELAWARE VALLEY REGIONAL PLANNING COMMISSION developed an extensive promotional campaign utilizing donated media time for public service announcements. This provided the required match to multiply out Federal Aid Highway Urban Systems funds for ridesharing. Two programs--Staggered Work Hours and Ridesharing--resulted in state deregulation of corporate-based vanpooling, significant financial benefits to participating carpool/vanpool participants, an insurance service, known as abort coverage, covering 90% of any losses (should they be incurred in the first year), and benefits to the community in air quality and energy conservation. The viable structure for developing a ridesharing program was based upon the utilization of private contractors who would take responsibility for vehicle procurement, fleet maintenance, insurance and billing services. Contact: Ira Pierce, Delaware Valley Regional Planning Commission, Penn Towers Building, 1819 J.F. Kennedy Blvd., Philadelphia, PA 19103, 215/567-3000.

Variable Work Hours: THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY has initiated a variable work hours program to encourage major employers to offer staggered or flexible work hours to their employees. This is aimed at spreading peak hour transit demand, thus expanding the system's carrying capacity. Contact: Ernest S. Deeb, Massachusetts Bay Transportation Authority, 50 High Street, Boston, MA 02110, 617/722-5000.

Work Schedule Changes: THE NORTHEASTERN ILLINOIS PLANNING COMMISSION has a program to evaluate the impact of work schedule changes on the region. Phase I: This technical study reviews and analyzes three basic variations of work schedule changes as a TSM strategy: staggered work hours, flexible work hours, and the modified work week. These are examined in the context of their applicability to TSM objectives in the Northeastern Illinois region. Case studies of precedents and experiences in other cities are examined. Phase II: This technical study of staggered and flexible work hours examines the impacts of work schedule changes on comprehensive regional planning goals and policies. Based on employment and traffic data, recommendations are made for prime sites for implementation of work schedule changes. Contact: John Henry Paige, NIPC, 400 W. Madison, Chicago, IL, 312/454-0400.

STATE PROGRAMS

Rideshare: THE GEORGIA STATE DEPARTMENT OF TRANSPORTATION introduced a rideshare program in 1976 aimed at State, county and city employees who work near the State capitol. Since that time the program has been expanded to cover Federal employees and employees of private firms with a work force of over 1,000 people in one location. Aided by a computer, the program provides interested commuters with information about potential carpool members and existing transit service. The program has resulted in diverting up to 5% of the target commuters to bus, carpools, or vanpools. Contact: Paul Zucca, Bureau of Public Transportaion, Department of Transportation, State of Georgia, No. 2 Capitol Square, Atlanta, GA 30334, 404/656-6000.

FEDERAL PROGRAMS

The Office of Personnel Management exercises administrative control over work hours programs for all Federal agencies. It has the policy responsibility for planning and advising all agencies on the feasibility and implementation of alternative work schedules. OPM also refers non-Federal agencies to specific publications and other agencies for appropriate assistance. Contact: Barbara Fiss or Woodrow Fein, Office of Personnel Management, Room 3554, 1900 E Street, N.W., Washington, DC 20415, 202/632-5604.

FHWA's Ridesharing Branch conducts studies into the impacts of these actions. Contact: Barbara Reichart, FHWA, Ridesharing Branch, HHP-33, 400 7th Street, S.W., Washington, DC 20590, 202/426-0210.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

824 Transportation System Management--Special Facilities and Institutional Measures

824-7/INTERCEPTS TO DOWNTOWN TRAFFIC

Problem Statement: Downtown intercept terminals for buses, carpools, and shoppers may provide a means for alleviating CBD congestion. Terminals might be coupled with a free CBD distribution system. Information is needed on the feasability and effectiveness of this approach.

Solution Considerations: Studies should include analysis of 1) terminal bus capacity, 2) land use impacts, 3) reduced parking rates for carpools and shoppers, and 4) potential transit use reduction resulting from forced transfer from line haul to distribution system.

LOCAL PROGRAMS

Intercept Terminal: DENVER, CO plans to operate two terminals as part of its 16th Street Transitway and Mall, with electrically powered shuttle vehicles carrying passengers from terminals to destinations along the mall. UMTA has funded the design of this project. **Contact:** Sandy Kohrs, Denver RTD, 1325 S. Colorado Boulevard, Denver, CO 80202, (303) 759-1000, Ext. 269.

Intercepts and Pedestrians: SAN FRANCISCO, CA is interested in ways that intercept terminals can be used to make downtown areas more suitable for pedestrians. **Contact:** Alan Lubliner, Center City Circulation Project Manager, Department of City Planning, City of San Francisco, 100 Larkin Street, San Francisco, CA 94102, (415) 558-5423.

824-8/CENTER CITY CIRCULATION AND TRANSIT FACILITIES

Problem Statement: What factors must be considered in the development of center city circulation policies? What projects or programs can be developed to implement these policies? What role can joint public-private development play in the implementation of these policies?

Solution Considerations: Transit, automobile, and walk modes should be considered. Analysis should examine the impacts of major new transit facilities, such as fixed rail systems and people movers, the impacts of bus and pedestrian malls, potential improvements resulting from central city freeway interchange design changes, high-occupancy-vehicle lanes on central city freeways, and traffic engineering approaches to reduce congestion.

LOCAL PROGRAMS

Indiana University-Purdue University-Indianapolis Downtown Express Service: INDIANAPOLIS, IN has an experimental express bus service connecting the CBD with the academic and medical complex of Indiana and Purdue Universities. Service began on February 6, 1978. The service, funded by the Merchants Association and revenue from 10 cent fares, provides easy access to varied activities in downtown Indianapolis for students and hospital workers located approximately 1.5 miles away. The project carries 2,000 weekly riders and has resulted in improved downtown circulation, reduction of short trips, and increased downtown activities. The project will be continued in 1979 with additional city funds. Contact: Sweson Yang, Indianapolis Department of Metropolitan Development, 2041 City-County Building, Indianapolis, IN 46204, (317) 633-3331.

Joint Development: DADE COUNTY, FL's Office of Transportation Administration is recruiting developers to participate in joint development projects in connection with rapid transit construction and the development of a downtown people mover. The Office will contract with municipalities and the Downtown Development Authority to plan for development around transit stations and is preparing grant applications. Contact: Woodrow L. Moore, Jr., Office of Transportation Administration, 16th Floor, 44 West Flagler Street, Miami, FL 33130, (305) 579-5655.

Pedestrian Mall: MEMPHIS and SHELBY COUNTY, TN in 1976 completed the 10-block Mid-America Mall. The Mall features auto use restrictions, a bus shuttle between the CBD and Medical Center, sidewalk improvements, a transit terminal, and bus shelters. Citizens have responded positively to the Mall, resulting in a new interest in revitalization of the downtown area. Contact: Michael Ritz, Office of Planning and Development, 125 N. Main, Memphis, TN 38103, (901) 528-2601.

FEDERAL PROGRAMS

UMTA's Office of Planning Methods and Support is distributing manual and computerized methods for evaluating CBD circulation systems. Contact: Gran Paules, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9271.

UMTA's Office of Service and Methods Demonstrations has projects relating to auto-restricted and transit-only zones. Contact: Joe Goodman, UMTA, UPM-30, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4984.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. Two documents, Center City Environment and Transportation: Local Government Solutions, and Center City Environment and Transportation: Transportation Innovations in Five European Cities, are also available. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

824 Transportation System Management--Special Facilities and Institutional Measures

824-9/IMPACTS OF DOWNTOWN PEOPLE MOVERS

Problem Statement: Center city circulation is a serious problem in many of the Urban Consortium jurisdictions. One proposed solution is to install a downtown people mover. A number of cities have applied to be demonstration sites. Prior to constructing the systems, a socioeconomic study is being conducted to assess potential impacts of the proposed systems. Many transportation officials would like to be appraised of findings of this study, progress of construction, and operating impacts.

Solution Considerations: The solution should include high quality information on current developments in downtown people movers--their funding, construction, ridership, and impacts. Results should be available at low cost to all interested people.

FEDERAL PROGRAMS

UMTA's Office of Planning Methods and Support is distributing manual and computerized methods for evaluating CBD circulation systems, especially downtown people movers. Contact: Gran Paules, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9271.

UMTA's Office of Technology Development and Deployment is conducting an independent, national land assessment of the social and economic impacts of the DPM deployments. This impact assessment will be developed from a synthesis of up to five site specific evaluations of DPM deployments which will be conducted through UMTA Section 8 planning grants. Contacts: John Durham, DPM National Level Assessment, UTD-10, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4022; Richard Steinmann, Site specific evaluations, UPM-10, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-2360.

824-10/BICYCLE OPERATOR EDUCATION AND ENFORCEMENT

Problem Statement: Although there are over 90 million bicycles in the U.S., many of the owners of these vehicles lack the skill and confidence to bicycle in urban street traffic. A smaller but significant number of cyclists are proficient in shared-roadway cycling. While improved bicycle facilities have a role in encouraging bicycle transportation and safety, programs that increase cyclist skills and confidence are needed to enhance the viability of the bicycle mode. Education of other road users to respect the rights of human-powered vehicles is also needed, as well as enforcement of traffic laws to cyclists.

Solution Considerations: Effective cycling techniques need to receive wider and more effective dissemination to both school-age children and adults. Recognition of education as a key element in promoting safe bicycle transportation needs to increase among transportation professionals, police, and educators.

LOCAL PROGRAMS

On-Road Bicycle Training in Junior High School: PORTLAND, OR's North Clackamas School District has initiated an on-the-road bicycle training course that is integrated into the regular curriculum. It is modeled after John Forester's Effective Cycling curriculum. Contact: Doug Force, Ickes Jr. High School, 4711 S.E., 49th Street, Portland, OR 97206.

STATE PROGRAMS

Bicycle Safety, Education, and Enforcement: The 4-H in Michigan sponsors bicycle leadership training of young people to disseminate effective cycling skills. Contact: Bonita Dostal Neff, State Bicycling Coordinator, Michigan 4-H Coop Extension, 3501 Coachlight, Lansing, MI 48910, (513) 353-6391.

FEDERAL PROGRAMS

U.S. DOT's Office of Environment and Safety can provide information on bicycle education programs and resources. Contact: Maureen Craig, Bicycle Program Coordinator, U.S. DOT, OST-P23, 400 7th Street, S.W., Washington, DC 20590, (202) 626-4414.

824-11/BICYCLE PARKING

Problem Statement: The availability of safe and convenient parking facilities is a critical consideration for people using bicycles for transportation. Most buildings and major trip attractors in metropolitan areas presently lack safe, secure, and convenient bicycle parking. This seriously inhibits bicycle use, for bicycle theft is a major problem. Developers are often reluctant to accommodate bicycle parking. Cities need to take more aggressive action to bring about the desired changes, which can be achieved at low cost.

Solution Considerations: Changes in zoning codes can be used to require provision of adequate bicycle parking at significant trip generators. Transit and government agencies can provide parking for bicycles at facilities they control. Office building managers can be encouraged to permit bicycles inside office buildings or to provide secure adjacent parking.

LOCAL PROGRAMS

Bicycle Parking Requirements Incorporated into Zoning Ordinance: PALO ALTO, CA is one of several cities that have incorporated bicycle parking requirements into their zoning ordinance as part of the off-street parking and loading regulations. **Contact:** Ellen Fletcher, Councilperson, City of Palo Alto, 777-108 San Antonio Road, Palo Alto, CA 94303, (415) 494-8943.

Promotion of Bicycle Parking: DENVER, CO has an active bicycle transportation program aimed, in part, at encouraging greater provision of bicycle parking. **Contact:** Royce Sherlock, Commuter Bicycling Coordinator, Denver Planning Office, 1445 Cleveland Place, Denver, CO 80202, (303) 575-3375.

FEDERAL PROGRAMS

U.S. DOT's Office of Environment and Safety: A number of US DOT funding sources and agency programs can be used to support acquisition of bicycle parking facilities. Information and technical assistance is available upon request. **Contact:** Maureen Craig, Bicycle Program Coordinator, U.S. DOT, OST-P23, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4414.

824-12/INTEGRATION OF BICYCLES INTO TRANSPORTATION PLANNING AND MANAGEMENT

Problem Statement: Bicycles are an extremely efficient mode of personal transportation, well suited to accommodate a significant share of the 60% of automobile trips that are 5 miles or less in distance. Little attention has been paid, however, to the bicycle as a serious and legitimate urban transportation mode. Steps need to be taken to ensure that the potential of bicycles is realized through effective integration of this mode into general transportation planning, management, and facility development.

Solution Considerations: Various actions are required to legitimize and promote bicycle transportation. More effective information dissemination concerning potential roles of bicycles needs to be directed towards transportation decision-makers, planners, and engineers at all levels of government and in the consulting field. Bicycle coordinators in local and state government have proven helpful in ensuring that bicycles receive consideration in transportation programs. Air quality, TSM, and energy contingency planning offer good opportunities to integrate bicycles into major action programs. The inflationary impact of rising fuel costs and transit operating deficits can be offset through the promotion and encouragement of increased bicycle transportation

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LOCAL PROGRAMS

Integrated Multi-Modal Planning: MADISON, WI has an active TSM planning and implementation program that gives serious consideration to bicycles, which account for nearly 10% of all trips in the area. Contact: Warren Somerfield, Director of Transportation, Madison DOT, Rm. 111, City/County Building, Madison, WI 53703, (608) 266-4761 or Thomas Walsh, Traffic Engineer, Madison DOT, 441 Toepfer Avenue, Madison, WI 53711, (608) 266-4761.

Bicycle Planning: DENVER, CO's planning office has completed a transportation systems management study of bicycle access, circulation, and parking in downtown Denver. Contact: Denver Planning Office, Room 400, 1445 Cleveland Place, Denver, CO 80202, (303) 575-3375.

824-12/INTEGRATION OF BICYCLES INTO TRANSPORTATION PLANNING AND MANAGEMENT

FEDERAL PROGRAMS

U.S. DOT's Office of Environment and Safety can provide information and technical resources for the improved integration of bicycles into urban transportation. Contact: Maureen Craig, Bicycle Program Coordinator, U.S. DOT, OST-P23, 400 7th Street, S.W., Washington, DC 20590, (202) 626-4414.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has developed an information bulletin, *Transportation System Management, Air Quality, and Energy Conservation*, that discusses this issue to some extent. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2468.

824-13/BICYCLE FACILITIES PLANNING AND IMPLEMENTATION

Problem Statement: Bicycle transportation presently faces many disincentives that can be overcome at low cost through improved traffic engineering and bicycle facilities. Better guidance is needed for traffic engineers on how to integrate bicycles safely with other road users and under what conditions separate bicycle lanes or paths should be created. Improved methods for assessing latent demand for bicycle facilities, better knowledge of the needs of different cyclist types, and more effective financing of bicycle transportation programs is needed.

Solution Considerations: Wide shoulder lanes (12 to 14 feet) show promise as a means for accommodating multi-modal road use under some situations. Completely separated bike paths have proven effective in other situations, but can have safety problems if subject to street or driveway crossings. The different needs of novice riders, recreational cyclists, and proficient bicyclists need to be recognized in highway development and maintenance. Barrier identification and removal should have high priority. Recognition of the bicycle as a legitimate vehicle needs to be increased.

LOCAL PROGRAMS

Bikeways and a Bicycle Ordinance: DADE COUNTY, FL has 310 miles of designated bikeways of which 132 miles are class 1 (separate path) bikeways. A County resolution requires that all new roads include bikeways. Dade County also has implemented a bicycle parking ordinance. Contact: Dick Farwell, Department of Parks and Recreation, 50 S.W. 32nd Road, Miami, FL 33126, (305) 579-2672.

Wider Shoulder Lanes and Bicycle Parking: MONTGOMERY COUNTY, MD requires bicycle parking facilities at many new buildings and requires consideration of bikeways for any new or reconstructed road. The County is providing paved shoulders on many new roads for bikeways and is restriping some multi-lane roads to provide 14 foot-wide curb lanes, which permit enhanced multi-modal use. A bicycle transportation Master Plan and bike route maps have been prepared. Contact: Chip Johnson, Montgomery County DOT, 6110 Executive Boulevard, Rockville, MD 20852, (301) 468-4065.

824-13/BICYCLE FACILITIES PLANNING AND IMPLEMENTATION

STATE PROGRAMS

Planning Design Criteria: THE CALIFORNIA Department of Transportation has adopted planning and design criteria for bikeways in California. Contact: Dick Rogers, Office of Bicycle Facilities, State of California, Division of Highways, 1120 N Street, Sacramento, CA 95814, (916) 445-7920.

FEDERAL PROGRAMS

U.S. DOT's Office of Environment and Safety serves as the main coordinator of US DOT programs affecting bicycle transportation. Information on funding programs, planning resources, and technical assistance are available. Contact: Maureen Craig, Bicycle Coordinator, U.S. DOT, OST-P23, 400 7th Street, S.W., Washington, DC 20590, (202) 626-4414.

FHWA's Office of Engineering has recently issued proposed Design and Construction Criteria for Bikeway Construction. These detailed guidelines focus on bicycle facility geometric design and construction. Contact: Jim Kirshensteiner, Highway Design Division, Office of Engineering, FHWA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0314.

824-14/BICYCLE-PEDESTRIAN CONFLICT

Problem Statement: As the bicycle becomes more widely used as a serious transportation mode in the United States, the number of bicycle-pedestrian accidents is bound to increase. Because pedestrians frequently use bicycle facilities for walking, potential for conflict is inherent in many separate facilities. Because both bicycles and pedestrians move with little noise, detection of potential conflicts where sight-distances are poor is difficult.

Solution Considerations: Little research has been done on this problem. Data on bicycle-pedestrian conflicts and accidents needs to be collected and evaluated to identify appropriate measures to increase safety. Criteria need to be established for when it is appropriate to separate pedestrian and bicycle traffic.

LOCAL PROGRAMS

Enforcement of Traffic Laws on Bicycles: NEW YORK, NY has stepped up enforcement of traffic laws on bicyclists, particularly for violations that can lead to conflict with pedestrians, such as wrong-way riding. Contact: Larry Reilly, Bicycle Coordinator, NYC DOT, 51 Chambers Street, No. 1225, New York, NY 10007, (212) 566-6620.

FEDERAL PROGRAMS

FHWA's Office of Research and Development sponsored a study titled, "An Investigation of the Potential for Pathways Shared by Pedestrians and Bicyclists" (Appendix W of the Pedestrian Planning Procedures Manual), issued in January 1978. This examines the issue of bicycle-pedestrian conflict from a theoretical perspective, but fails to account adequately for a number of critical factors. The maximum recommended flow of pedestrians on a 2.5 meter wide facility shared with any number of bicycles is given here as 145 per hour, but this appears to be unacceptable from a cyclists' perspective and a safety perspective for most urban bikeways. Contact: John Fegan, FHWA, HRS-41, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9710.

ADDITIONAL PROGRAMS

Criteria for Separation of Pedestrians and Cyclists: The Traffic Advisory Unit in LONDON, ENGLAND has recognized this problem and offered a possible separation criteria (leading to separate bicycle and pedestrian paths) of 30 pedestrians per hour and 15 cyclists per hour for a standard 2.5 meter wide path. Contact: Traffic Advisory Unit, 2 Marsham Street, London SW1 P 3EB, England.

824-15/ELECTRIC VEHICLES

Problem Statement: As a result of the increasing cost of gasoline and increasing concern over the availability of fuel, electric vehicles may become an increasingly viable option particularly in urban and suburban areas where high speed travel is neither essential nor possible.

Solution Considerations: What has been the experience of the private institutions, local governments, and businesses that have used electric vehicles? Are the vehicles practical for urban travel? Has the use of urban electric cars as public transportation in European cities been successful?

FEDERAL PROGRAMS

The Department of Energy through its Nevada Operations Office is sponsoring a national demonstration program to test electric and hybrid vehicles for commercial use. Contact: Daryl B. Morse, Director, Contracts and Procurement Division, US Department of Energy, Nevada Operations Office, P.O. Box 14100, Las Vegas, NV, 89114.

ADDITIONAL PROGRAMS

The Electric Vehicle Council's Newsletter reports on electric vehicle research, state and federal actions pertaining to electric vehicles publications, and conferences. Contact: Lynn Andrews, Editor, Newsletter, Electric Vehicle Council, 1111 19th Street, N.W., Washington, D.C. 20036, (202) 828-7516.

831 Mass Transit--Planning and Management

831-1/NON-FEDERAL ALTERNATIVES FOR FINANCING PUBLIC TRANSPORTATION

Problem Statement: Transit service improvements and increases in costs have resulted in the need for operating funds that are often in excess of funds available from current sources. Without new sources of operating funds, fare increases and significant service reductions may be required.

Solution Considerations: Studies of alternative financing strategies should explore tax increases, new taxes or tax bases, value capture, advertising, subsidy programs for low-income riders, selective fare increases, greater modal cross-subsidies, and fare promotion programs. Research summarizing the means of raising funds for transit support should be carried out.

LOCAL PROGRAMS

Adopt-A-Station Program: PHILADELPHIA, PA has had three local firms and a local foundation pledge the funds necessary to complete planning and construct a transit station that served as a gateway to the Bicentennial historical area on Independence Mall in Philadelphia. This private involvement came about through the "Adopt-A-Station" concept, whereby private funds from neighboring industry were utilized on behalf of the adjacent community at large. Without the "Adopt-A-Station" program, the project could not have been completed on schedule and indeed might not have been funded at all. The concept enables private firms to act on behalf of their employees by improving adjacent subway stations,while benefiting the general public as well. **Contact:** Ira Pierce, Delaware Valley Regional Planning Commission, Penn Towers Building, 1819 J.F. Kennedy Boulevard, Philadelphia, PA 19103, (215) 567-3000.

Survey of Options: THE SAN FRANCISCO, CA METROPOLITAN TRANSPORTATION COMMISSION has extensively reviewed alternative sources for transit funding, including property sales, income, and fuel taxes, toll and parking charges, and benefit assessment schemes. Generalized and local analyses and recommendations are included in a report "Revenue Sources for Transit Support" (1976). Contact: Metropolitan Transportation Commission, Hotel Claremont, Berkeley, CA 94705, (415) 849-3223.

A Variety of Funding Sources: CHICAGO'S REGIONAL TRANSPORTATION AUTHORITY, through October 1979, received funding from 4 different sources. It received: 1) 3/22 of sales tax revenues from 6 counties, 2) 14 dollars from each vehicle license fee from those vehicles licensed in the City of Chicago, 3) funds from a 5% gas tax levied in all 6 counties (the amount collected from each county could only be spent in that county), and 4) 5 million dollars contributed to the RTA by governments in Cook County. Beginning in November 1979, different funding sources will be used. The Illinois State Legislature has authorized the levy of a 1¢ sales tax in Cook County and a 1/4% sales tax in the other 5 counties. In addition, the Legislature authorized bonds to be issued. The Illinois DOT has also agreed to provide the local share for capital funds needed by the RTA. Contact: Joanne Vlecides, Regional Transportation Authority, 300 North State Street, Chicago, Illinois 60610, (312) 836-4110.

STATE PROGRAMS

Subsidy Criteria: THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION has developed and tested a new funding method that bases State operating assistance grants on financial need and operating and financial performance. This method was developed to distribute State operating assistance grants in a more equitable and predictable manner, as well as provide incentives for improved transit performance. Contact: John Dockendorf, Mass Transit Assistance Division, Pennsylvania DOT, 1215 Transportation and Safety Building, Harrisburg, PA 17120, (717) 787-7540.

FEDERAL PROGRAMS

UMTA's Office of Policy and Program Development has carried out research in this area. Contact: Jim Yu, UPP-31, UMTA, 400 7th Street, S.W., Washington, DC 20036, (202) 426-4058.

831-NON-FEDERAL ALTERNATIVES FOR FINANCING PUBLIC TRANSPORTATION

UMTA's University Research Program has produced two reports in this area: "Evaluating Revenue Sources for Public Transit: A New Frontier for Environmental Planners" (PB-256-225), and "Financing Operating Subsidies for Urban Mass Transit Systems: An Analysis of State and Local Tax Options" (PB-239-634). Both are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 557-4650.

831 Mass Transit--Planning and Management

831-2/MARKETING PUBLIC TRANSPORTATION

Problem Statement: Potential transit users need better information about schedules and routes and transit system improvements. A marketing approach to public transportation that more closely integrates needs and services may increase ridership and revenues.

Solution Considerations: Improved marketing fundamentally relies on effective market research, i.e. discovering consumer needs, preferences, etc. Effective methods of providing transit information can also be researched. Service planning and development, pricing, promotion efforts, and other decisions should be approached from the standpoint of maximizing consumer appeal. Marketing methods to achieve increased ridership need to be developed as standard industry practice.

LOCAL PROGRAMS

Annual Marketing Plans: THE MUNICIPALITY OF METROPOLITAN SEATTLE develops annual marketing plans in which programs are targeted to specific marketing segments. Programs emphasize why commuters should use the bus, ease of fare payment and use of passes, and how to use the transit system. The plans contributed to ridership increases of over 8% in 1977 and 10% in 1978. Contact: Michelle Marshall, Metro Transit, 821 Second Avenue, Seattle, WA 98104, 206/447-6789.

Computerized Customer Information System: SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT is testing a computerized customer information system designed to increase telephone operator productivity and improve information service for patrons. A reduction of average response time from 3 minutes to 30 seconds is anticipated. The expected date for a completely computerized information service is June 1981. Contact: Robert G. Williams, Southern California Rapid Transit District, 425 S. Main, Los Angeles, CA 90013, 213/972-6181.

Customer Service Program: THE MEMPHIS AREA TRANSIT AUTHORITY keeps citizens informed about available transit services through a customer service program that involves two customer service representatives and two information centers, one of which is located at the Second Street Station in the CBD. The customer service representatives speak to community groups and schools. Contact: William Hudson, Memphis Area Transit Authority, 701 No. Main Street, Memphis, TN 38101, 901/528-2855.

Innovations in Marketing and Market Research: THE SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT has developed a number of transit marketing aids, including a general purpose brochure, a bus system guide, direct mailing of schedules, bus advertisements stressing economy of riding, outlets for monthly pass sales, and bus tail signs aimed at motorists. Market research has included an awareness and attitude survey of both riders and non-riders. Contact: George L. McDonald, Southern California Rapid Transit District, 425 S. Main, Los Angeles, CA 90013, 213/972-6490.

Marketing and Management: THE METROPOLITAN TRANSIT COMMISSION (MTC) serves the seven-county Minneapolis-St. Paul metropolitan area. MTC places major emphasis on comprehensive marketing which proceeds out of the development of two-year marketing plans. The marketing plan is based on market research and affects service development and changes, advertising and promotion, corporate marketing endeavors, and internal marketing. Ridership has increased by more than 40% since 1970. Contact: Anthony M. Kouneski, Metropolitan Transit Commission, 801 American Center Building, 150 E. Kellogg Blvd., St. Paul, MN 55101, 612/221-0939.

Transit Market Research: THE TRANSIT AUTHORITY OF RIVER CITY uses on-board, telephone, and in-home interviews to ascertain attitudes of the transit riding and non-riding public. The results of the survey make it possible to segment the market and focus marketing efforts towards the most effective areas. Contact: John A. Woodford, Transit Authority of River City, Suite 302, Speed Bldg., 333 Guthrie St., Louisville, KY 40202, 502/587-3646.

Transit Market Research Study: PRINCE GEORGE'S COUNTY hired a consultant to determine the effectiveness of the present Metrobus network in serving travel demands; evaluate the effect of various pricing strategies on the choice of public transportation as a travel mode; identify and recommend revisions in route structure, level of service, fare structure, and other areas that might offer improvements in satisfying resident travel demands; and identify marketing tools available to the County. Contact: Weldon W. Johnson, Department of Public Works and Transportation, County Administration Building, Upper Marlboro, MD 20870, Room 3080, 301/952-4280.

Transportation Brokerage: KNOXVILLE, TN has developed a transportation broker agency that is developing new approaches to transportation marketing, paying particular attention to new shared-ride services. The project is funded as an UMTA demonstration. Contact: Lester L. Smalley, Department of Public Transportation Services, City of Knoxville, TN 37902, 615/522-5211.

User Aids: THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY has excellent graphics and user information aids. Special aids have been developed for elderly, handicapped, and foreign language speaking individuals. Of special note are two system maps, one in Braille and the other in Chinese. Contact: Ernest S. Deeb, Massachusetts Bay Transportation Authority, 50 High Street, Boston, MA, 02110, 617/722-5214.

FEDERAL PROGRAMS

RSPA's Office of University Research is sponsoring several research projects in this area including Consumer Oriented Transportation Service Planning. Contact: Mary Lynn Tischer, HHP-22, FHWA, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-0182.

UMTA's Office of Technology Development and Deployment conducts research and demonstration projects supporting the introduction and use of new technology, with one area of emphasis being the use of the computer to enhance telephone information concerning transit availability. This program area, known as the Automated Transit Information System (ATIS) program, includes a project to demonstrate an Automated Information Directory Service (AIDS) by the Washington Metropolitan Area Transit Authority (WMATA). The AIDS system should be fully operational by January 1980. Contacts: John Durham, UTD-10, UMTA, 400 7th Street, S.W, Washington, DC 20590, (202) 426-4022. Michael Noonchester, Office of Marketing, WMATA, 600 Fifth Street, N.W., Washington, DC 20001, (202) 637-1123.

UMTA's Office of Transit Management conducts research and demonstration projects in transit marketing and makes the results of these available to the transit industry. A Marketing Handbook and other products are available. Contact: Brian J. Cudahy, UPM-40, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-9274.

ADDITIONAL PROGRAMS

The Transportation Research Board has investigated European marketing techniques and their application to the United States. Both a one projector and two projector slide presentation have been prepared. Contact: David Ewing, Transportation Research Board, 2101 Constitution Avenue, N.W., Washington, DC 20418, 202/389-6548.

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with marketing. Contact: Public Technology, Inc., 1140 Connecticut Avenue, N.W., Washington, DC 20036, Attention: Transportation Staff, 202/452-7700.

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has issued a series of SMD Briefs on the transportation brokerage system demonstration in Knoxville, TN. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004 Attention: Transportation Staff, 202/ 626-2400.

831-3/TRANSPORTATION SERVICE PROVISION AND COORDINATION FOR ELDERLY, HANDICAPPED, AND TRANSIT-DEPENDENT PERSONS

Problem Statement: There is an increasing recognition of the need to improve transportation services for elderly and handicapped persons. Providing free or low cost transportation to transit-dependent persons with little or no income needs to be studied to determine the best way to meet their needs. The coordination of existing providers of services for elderly and handicapped persons also needs to be examined.

Solution Considerations: 1) An information exchange to address the following questions among jurisdictions is needed: (a) What definitions of elderly, handicapped, and transit-dependent persons are now being used and who certifies them? (b) What kind of identification do they carry? (c) How do you reach them to describe the transportation services available? (d) How do you predict demand for special transportation services? 2) Fragmentation of social services transportation programs is a serious barrier to improved service. Have any jurisdictions overcome it? 3) There is a need to disseminate Federal regulations with brief explanations of their implications. Other areas of study include 1) the feasibility of distributing special transit passes or tokens; 2) paratransit operations; 3) the feasibility of subsidizing taxi fares as a means of providing transportation; 4) the coordination of existing services.

LOCAL PROGRAMS

Accessible Bus Evaluation Program: THE SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT is cooperating with UMTA in a program to evaluate the operation, acceptance, and use of 200 lift-equipped buses for use in regular fixed-route transit service. The agency's program for making the bus system fully accessible includes the reduction of physical barriers, priority seating, improved access to bus stops and other facilities, information barrier reduction, inter-system barrier reduction, and sensitivity training of drivers. Contact: Paul C. Taylor, Southern California Rapid Transit District, 425 S. Main, Los Angeles, CA 90013, (213) 972-6170.

Agency Coordination: THE TRI-COUNTY METROPOLITAN TRANSIT DISTRICT OF OREGON is responsible for coordinating transit service provided on a contract basis to 18 social service agencies. Cost savings and improved service has resulted from this UMTA-funded demonstration. Contact: Dennis Chapman, Tri-Met, 520 S.W. Yamhill Street, Portland, OR 97204, (503) 238-4890.

Econofare: THE KANSAS CITY AREA TRANSPORTATION AUTHORITY permits food stamp recipients to purchase transit tokens for $0.25, a savings of $.15 from the regular fare of $.40. Tokens are good on any route at any time. Contact: Harold E. Boston, City Transportation Department, 414 E. 12th Street, Kansas City, MO 64106, (816) 274-4801.

Elderly and Handicapped Transportation Programs: SANTA CLARA COUNTY TRANSIT has 5 programs addressing the transportation needs of elderly and handicapped persons. They are 1) a program to train elderly and handicapped persons currently dependent on specialized paratransit services to use regular transit facilities, 2) a program employing 12 advisors and a coordinator (all of whom are over 65 years old) to contact and encourage other senior citizens to use transit, 3) a program to encourage the utilization of lift-equipped buses and to train the mobility-limited passengers and the vehicle operators in their use, 4) a program to assist people who are aurally disabled in using Santa Clara County Transit, and 5) a program for developmentally-disabled persons to help them become more independent in their ability to use the transit system. A manual and training materials are used. Contact: Doug Knapp, Santa Clara County Transit, 1555 Berger Drive, San Jose, CA 95112, (408) 299-4141.

Handi-van: GALESBURG, IL operates one van, equipped with a hydraulic lift, for the purpose of transporting elderly and handicapped persons to physicians' offices, pharmacies, nutrition sites, and places where it is necessary for them to go in order to transact business. Contact: JoAnn Harris, City of Galesburg, P.O. Box 1367, Galesburg, IL 61401, (309) 343-4181.

Integrated Transportation Demonstration: MARICOPA COUNTY, AZ. The Community Action Agency has combined its resources with those of three separately funded operating agencies---the City of Avondale, Area Agency on Aging, and American Red Cross--to provide a transportation system that will more effectively and efficiently meet the transportation needs of elderly, handicapped, and transit-dependent persons. Contact: Steve Smith, Community Services Department, 3455 Durango, Phoenix, AZ 85009, (602) 262-3215.

Kneeling Bus and Lift Bus Service: THE METROPOLITAN ATLANTA RAPID TRANSIT AUTHORITY has implemented specialized transportation services for elderly and handicapped persons. A modified fixed-route service is provided for handicapped persons with 20 buses with wheelchair lifts when at least 4 riders can be scheduled. For a group of 15 or more elderly riders a special pre-scheduled service is available from a common origin to a common destination. The fare is $1.00 each way for the service assisting handicapped persons and $0.25 for the service for elderly persons. There are an average of 1,850 monthly trips provided by the lift service and 4,600 by the elderly service. Contact: Charles Daniel, Metropolitan Atlanta Rapid Transit Authority, 2200 Peachtree Summit, 401 W. Peachtree Street, Atlanta, GA 30308, (408) 586-5007.

Paratransit Brokerage Program: THE METROPOLITAN TRANSIT AUTHORITY serving the Houston urbanized area is responsible for developing a comprehensive delivery system to meet the transportation needs of publicly- and privately-funded transportation programs serving elderly and handicapped persons. Contact: David Warren, Metropolitan Transit Authority, P.O. Box 61429, Houston, TX 77208, (713) 222-5541.

The Ride: DADE COUNTY, FL is operating a 6-9 month demonstration project with two service components. Fixed-route service with a potential expansion to route-deviation service will be provided in two target areas, using minibuses. Dade County will contract with taxi operators to provide advance reservation, curb-to-curb service in two other target areas. The cost-effectiveness and efficiency of both types of service will be evaluated. Contact: Ellen McCarthy Casebeer, Program Development Branch, Office of Transportation Administration, 44 West Flagler Street, 16th Floor, Miami, FL 33130, (305) 579-5655.

Service Development Program: CHICAGO, IL's REGIONAL TRANSPORTATION AUTHORITY has compiled a directory which identifies transportation services available to elderly and handicapped persons in the six-county Northeastern Illinois region. Current staff efforts are directed toward coordinating all services for elderly and handicapped persons in the region. Contact: Dale Fitschen, Regional Transportation Authroity, Operational Planning Department, 300 North State Street, Chicago, IL 60610, (312) 836-4126.

Van Pool: KANSAS CITY, MO operates three vans for transporting elderly and handicapped persons with another two for city employees. During non-commuting hours the two city employee vans are also used to provide transportation for elderly and handicapped persons. Contact: Harold E. Bastin, Transportation Department, 414 E. 12th Street, Kansas City, MO 64106, (816) 274-1801.

STATE PROGRAMS

Bus Lift Retrofit Evaluation: THE CALIFORNIA DEPARTMENT OF TRANSPORTATION has purchased and is installing four different lifts into existing buses. Testing will be carried out at various operating properties. Contact: Carl Stewart, California Department of Transportation, P.O. Box 1499, Sacramento, CA 95807, (916) 445-7118.

FEDERAL PROGRAMS

RSPA's Office of University Research is sponsoring several research projects in this area including: 1) Mobility of the Handicapped and Elderly, and 2) Using School Buses to Transport Elderly and Handicapped Non-Wheelchair Users: A National Feasibility Study. Contact: L.B. Wallerstein, P-23, OST, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4391.

831-3/TRANSPORTATION SERVICE PROVISION AND COORDINATION FOR ELDERLY, HANDICAPPED, AND TRANSIT-DEPENDENT PERSONS

UMTA's Office of Service and Methods Demonstrations sponsors research into transportation needs of elderly and handicapped persons. Contact: Patricia Cass, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4984.

UMTA's Office of Service and Methods Demonstrations conducts demonstrations of new techniques for improving elderly and handicapped transportation. Contact: Lynn Sahaj, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4984.

UMTA's Office of Technology Development and Deployment answers technological questions concerning accessibility and mobility, and develop where appropriate and cost-effective, hardware options for improving transit for the elderly and handicapped. Contact: Patricia E. Simpich, UTD-10, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4023.

UMTA's Office of Technology Development and Deployment is developing estimates of the costs and ways of making improvements to existing fixed rail systems to make them accessible to and usable by handicapped persons. Contact: Jeffrey Mora, UTD-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 472-7037.

UMTA's Office of Technology Development and Deployment is studying vertical mobility problems of the transportation-handicapped. Two ongoing studies are (1) a study of the inclined elevator and its use in Stockholm and (2) an escalator modification study. Contact: Patricia E. Simpich, UTD-10, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4023.

UMTA's Office of Technology Development and Deployment is studying lifts for rail car accessibility. Bids have been requested to design and build a prototype lift applicable both to commuter rail and light rail vehicles. Contact: Jeffrey Mora, UTD-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0090.

UMTA's Office of Technology Development and Deployment, in FY 1980, will study whether there is a problem for the handicapped transit user at the interface between the station platform and the rapid rail car--referred to as the "gap". If a problem is identified, the contractor will be directed to recommend whether research is needed to develop hardware solutions. Contact: Jeffrey Mora, UTD-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-0090.

UMTA's Office of Technology Development and Deployment is developing a detailed mockup of the front end of a low floor bus, including a ramp with different nonskid surfaces and different edge (anti-roll-off) designs and a detailed interior of the vestibule. Final project report was submitted for review in August 1979. Contact: Stanley Hindman, UTD-21, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4035.

831-3/TRANSPORTATION SERVICE PROVISION AND COORDINATION FOR ELDERLY, HANDICAPPED, AND TRANSIT-DEPENDENT PERSONS

UMTA's Office of Technology Development and Deployment will be conducting an operational evaluation of the various types of lifts currently available for transit buses. Primary emphasis will be on developing criteria to evaluate operability, reliability, maintainability, and safety. Contact: Robert Haught, UTD-50, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9545.

UMTA's Office of Technology Development and Deployment is sponsoring research to study wheelchair securement systems and to develop safety guidelines for lifts on transit vehicles. Contact: Patricia E. Simpich, UTD-10, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4023.

UMTA's Office of Technology Development and Deployment develops vehicles suitable for paratransit service, particularly for wheelchair passengers. Contact: J. Ridgley, UTD-23, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4035.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. It has also prepared a report entitled *Elderly and Handicapped Transportation: Local Government Approaches* and a series of *SMD Briefs* on the user-side subsidy demonstrations for elderly and handicapped persons in Kinston, NC and Lawrence, MA, a dial-a-ride service demonstration in New York, NY and the Tri-Met social service agency coordination project. Contact: Public Technology, Inc. 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2424.

831-4/PARATRANSIT INTEGRATION WITH CONVENTIONAL TRANSIT SERVICES

Problem Statement: How can urban areas integrate conventional transit and paratransit services so as to offer the highest level of mobility in the community?

Solution Considerations: 1) There is a need to devise criteria for the effective integration of these services. 2) What kinds of licensing controls and regulatory structures are needed? 3) What kind of information systems are required? 4) Cooperative working agreements with the private sector should be considered. 5) Dial-a-ride systems should be explored.

LOCAL PROGRAMS

Taxicab and Dial-a-Bus: Demand-Actuated Transportation in Northeastern Illinois: THE NORTHEASTERN ILLINOIS PLANNING COMMISSION prepared a report that shows the potentials and limitations of demand-actuated transportation. It suggests when, where, and for whom it should be provided, and how it should be established. Contact: John Henry Paige, NICP, 400 W. Madison, Chicago, IL, 312/454-0400.

Integrated Taxi/Fixed Route Transit: THE WESTPORT TRANSIT DISTRICT operates a conventional transit system that principally provides commuter service to and from suburban rail stations, and also contracts with a taxi operation to provide additional service using 12-passenger vans. Dial-a-ride service is provided in off-peak periods, and in peak hours the vans supplement the fixed-route service. Contact: Gordon Aoyagi, Westport Transit District, 304 Post Road East, Westport, CT 06880, 203/ 226-0422.

North Freeway Park and Ride Feeder Service: HARRIS COUNTY, TX and HOUSTON'S METROPOLITAN TRANSIT AUTHORITY will implement a paratransit feeder service to the proposed North Freeway Park and Ride lot which will utilize the North Freeway contraflow lane. The system will operate in both peak and off-peak periods. Contact: David Warren, Metropolitan Transit Authority, P.O. Box 61429, Houston, TX 77208, 713/222-5541.

831-4/PARATRANSIT INTEGRATION WITH CONVENTIONAL TRANSIT SERVICES

Paratransit Advisory Committee Report: THE SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT formed a Paratransit Advisory Committee representing transit operators, social service agencies, regulatory agencies, taxicab operators and the MPO. The committee report analyzes the financial, coordination, information, and eligibility problems of transit and paratransit operators in Los Angeles County. It presents short-, medium-, and long-range recommendations concerning these problems. Contact: Paul C. Taylor, Southern California Rapid Transit District, 425 S. Main, Los Angeles, CA 90013, 213/972-6170.

Paratransit Program: THE REGIONAL TRANSPORTATION AUTHORITY and communities in Northeastern Illinois are involved in a number of demonstration projects that provide dial-a-ride and subscription bus services to and from suburban commuter rail stations. Contact: Dale Fitschen, Regional Transportation Authority, Operational Planning Department, 300 North State Street, Chicago, IL 60610, 312/836-4126.

Ridesharing: THE NORTHEASTERN ILLINOIS PLANNING COMMISSION has a program evaluating the feasibiity and impacts of ridesharing in the Chicago region. Phase I: This report examines ridesharing (carpooling, buspooling, and vanpooling) as an urban transportation alternative, with an emphasis on its applicability to the Chicago area. It provides information about the current status of ridesharing in the Chicago area and its potential for future development. The analysis and conclusions are directed at producing a profile of the conditions under which various forms of ridesharing have been successful. Phase II: This report examines carpooling, vanpooling, and buspooling as a strategy for attaining TSM objectives. The study examines the impacts of ridesharing on comprehensive regional planning goals and policies. Based on employment data and tabulations of a NIPC employer-employee survey, the study identifies prime areas for the development of ridesharing. Contact: John Henry Paige, NIPC, 400 W. Madison, Chicago, IL 312/454-0400.

Taxi Feeder to Bus Service: ST. BERNARD PARISH, LA operates a combined bus and taxi system to extend the reach of transit service economically. Taxis, available by pre-arrangement or telephone, coordinate with the bus schedules and operate with integrated fare payment and transfers. Contact: Harold Wilbert, St. Bernard Parish Planning Commission, 8201 W. Judge Perez Drive, Chalmette, LA 70043, 504/279-5335.

Total Commuter Service Program: HENNEPIN COUNTY, MN's regional transit agency, the METROPOLITAN TRANSIT COMMISSION, has established a coordinated van- and carpooling program for firms too small to develop their own programs, using third-party providers of vans and other services. The Metropolitan Transit Commission determines potential sites for the implementation of the program, develops information on the employee travel patterns at each site, and groups employees by place of residence. Since January 1978, 35 vanpools have been formed and 900 persons have been assisted in the formation of carpools. Contact: Judith Hollander, Metropolitan Transit Commission, 801 American Center Building, 160 East Kellogg, St. Paul, MN 55101, 612/221-0939.

FEDERAL PROGRAMS

UMTA's Office of Bus and Paratransit Technology deals primarily with the analysis and development of computer-based systems to support paratransit operations. Subjects addressed include economics, service integration, and operations. Contact: Ed Neigut, UTD-22, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-8483.

UMTA's Office of Planning Methods and Support distributes analytical methods and case studies which assist in design and evaluation of paratransit services. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9241.

UMTA's Office of Policy and Program Development conducts studies on paratransit issues, including the institutional development of paratransit services. Contact: Doug Bernie, UPP-10, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4060.

UMTA's Office of Service and Methods Demonstrations conducts a variety of demonstrations that integrate conventional and paratransit services. Contact: Jim Bautz, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4984.

ADDITIONAL PROGRAMS

The Transportation Research Board publishes a newsletter entitled "Paratransit" covering developments in the area. Contact: David Ewing, Transportation Research Board, 2101 Constitution Avenue, N.W., Washington, DC 20418, 202/389-6548.

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. A revised edition will be available in Fall 1979. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has published a series of SMD Briefs on the UMTA funded demonstrations including several paratransit projects. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

831-5/COLLECTION-DISTRIBUTION SYSTEMS

Problem Statement: There is a need to improve collection and distribution techniques in high-density areas.

Solution Considerations: 1) A catalog covering state-of-the-art development in people mover technology is needed. 2) Some basis for comparison among technologies should be provided. 3) Coordination with line-haul transit and regional land use and transportation plans should be addressed. 4) Coordination with CBD fringe parking and bus intercept terminals should be addressed. 5) A trackless-trolley shuttle system should be explored, along with elevated guideway transit systems.

LOCAL PROGRAMS

Activity Center Minibus Service: SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT. The heavily-congested Los Angeles CBD and Westwood Village areas are served by minibus circulation systems at very low fares. The CBD fare is 15 cents and the Westwood Village is 10 cents. More than 6,000 riders use these services daily. Contact: Paul C. Taylor, Southern California Rapid Transit District, 425 S. Main, Los Angeles, CA 90013, 213/972-6170.

FEDERAL PROGRAMS

UMTA's Office of Automated Guideway Transit Applications is responsible for the Downtown People Mover (DPM) demonstration program. The DPM program is intended to provide a national demonstration of the merits of automated people mover transit systems operating in an urban environment. Major goals of the program include the capabilities of DPM's to function as circulators/distributors and as potential substitutes for certain functions now performed by more expensive fixed guideway systems, such as subways. Contact: Steven Barsony, UTD-60, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-2896.

UMTA's Office of Planning Methods and Support is distributing manual and computerized methods for evaluating CBD circulation systems, especially downtown people movers. Contact: Gran Paules, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9271.

UMTA's Office of Service and Methods Demonstrations is involved in developing many approaches to improve central area and suburban collection and distribution service. These include people-mover systems, shuttle systems for serving fringe parking lots and auto restricted zones, and various paratransit feeder services to line-haul transit. Contact: Ron Fisher, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4995.

UMTA's Office of Socio-Economic Research and Special Projects has embarked on a program to assess automated guideway transit technologies. Data describing 20 domestic and 9 foreign systems have been compiled, and further study is in progress. Contact: Howard D. Evoy, UTD-10, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4022.

ADDITIONAL PROGRAMS

The Transportation Research Board publishes a newsletter describing developments in downtown people movers, automated guideway systems and other new systems. Contact: David Ewing, Transportation Research Board, 2101 Constitution Avenue, N.W., Washington, DC 20418, 202/389-6548.

831-6/TIMED TRANSFER CENTERS AND TRANSIT ROUTE NETWORK DESIGN

Problem Statement: One of the reasons for low modal split is that transit networks effectively connect far fewer parts of an urban area than do the street networks used by the automobile. Most transit networks in urban areas are radial, serving major activity centers. Travel to other destinations is often circuitous. While grid systems may be applied in denser, older urban areas, they are often not applicable in lower density areas. The timed transfer concept has been successfully applied for modal changes (buses feeding rail stations) and has been suggested as a way to provide more direct routing between lower density areas.

Solution Considerations: Existing timed transfer centers should be examined. Routing redesign, transfer procedures, and system planning and management should be examined. Research is also needed to study the relationship of transit route structure and modal split. Evaluations of different network design philosophies should consider design variables such as city size, ridership levels, population density, trip characteristics, travel times, and operating costs.

LOCAL PROGRAMS

Sector Grid Bus System: THE SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT began in 1975 to implement and evaluate a countywide grid bus system on a sector by sector basis. The grid is expected to be complete by mid-1980. Contact: Paul C. Taylor, Southern California Rapid Transit District, 425 S. Main, Los Angeles, CA 90013, (213) 972-6170.

Timed Transfer Service: SEATTLE, WA is testing timed transfer service in a geographically isolated surburban area. The outcome of this experiment will determine whether the concept is applied more widely. Contact: Jim Parsons, Chief Transportation Planner, Office of Policy and Evaluation, City of Seattle, 400 Yesler Building, 4th Floor, Seattle, WA 98104, (206) 625-4591.

Network Redesign: DENVER, CO has radically reorganized its transit route network with a full grid system now in operation. Contact: Sandy Kohrs, Denver RTD, 1325 S. Colorado Boulevard, Denver, CO 80202, (303) 759-1000, Ext. 269

Timed Transfer Service: PORTLAND, OR has instituted timed transfer service in conjunction with its downtown transit mall. A number of Tri-Met's bus lines were re-routed along the transit mall to facilitate the timed transfer sevice. Contact: Michael Kyte, Service Planning Manager, Tri-Met, 4012 SE 17th Avenue, Portland, OR 97202, (503) 238-4905.

FEDERAL PROGRAMS

UMTA's Office of Planning Methods and Support researches, develops, and disseminates analytical techniques and case studies which support this aspect of transportation planning. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9271.

UMTA's Office of Service and Methods Demonstrations is carrying out research on improved transfer practices, including the timed-transfer concept. Contact: Ronald J. Fisher, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4995.

ADDITIONAL PROGRAMS

The University of Washington has completed a report on "Transit's Role in the Creation of the Polycentric City: An Initial Assessment" (available from NTIS, 5285 Port Royal Road, Springfield, VA 22161, Report No. PB-275-043). The project is sponsored by the UMTA Office of University Research. Contact: Jerry Schneider, Department of Civil Engineering, FX-10, University of Washington, Seattle, WA 98195, (206) 543-8678.

831-7/COORDINATION OF CITY-SUBURBAN TRANSIT

Problem Statement: Transportation is a regional concern. To serve metropolitan areas adequately, there must be close coordination between city and suburban transit systems.

Solution Considerations: A report illustrating the procedures that have been followed in various areas is needed.

LOCAL PROGRAMS

Feeder Buses to Rapid Rail Station: THE METROPOLITAN RAPID TRANSIT AUTHORITY has rerouted its buses to form a feeder network to the transit stations for the recently opened rapid rail transit system. Some stations have been designed to provide across-the-platform transfers between rail and bus routes. Contact: Cathy Thomas, City of Atlanta, GA 30303, 404/658-6306.

Regional-Municipal Operator Coordination: LOS ANGELES, CA. The area is served by one large regional transit agency and numerous small municipally-owned systems. Many of these public transit providers have begun multilateral coordination efforts including inter-agency transfers and coordinated planning and marketing. Contact: Paul C. Taylor, Southern California Rapid Transit District, 425 S. Main, Los Angeles, CA 90013, 213/972-6170.

Suburban Operators Provide Coordinated Service to Major Rail Terminals: BOSTON, MA. Several privately-owned suburban operators provide coordinated services to major MBTA rail terminals--South Station, Copley Plaza and North Station. Private operator schedules are posted prominantly at these MBTA transfer terminals as well as at MBTA's Community Affairs and Marketing Office. The MBTA system map includes a complete list of private bus carriers and their telephone numbers. Contact: Charles Waelde, Massachusetts Bay Transportation Authority, 45 High Street, Boston, MA 02110, 617/722-5405.

Transit Fare Program: THE REGIONAL TRANSPORTATION AUTHORITY has established region-wide transit fare policies in Northeastern Illinois. A uniform zone-fare structure for the commuter railroads and uniform fares for suburban buses were initiated. A universal transfer system permits transfers between any of the RTA-funded bus and rapid transit services in the region. A uniform reduced-fare program for students, children, and elderly and handicapped persons has been established. Contact: Mike Nielsen, Regional Transportation Authority, Operational Planning Department, 300 North State Street, Chicago, IL 60610, 312/836-4123.

FEDERAL PROGRAMS

UMTA's Office of Bus and Paratransit Technology has a research project in this area. Contact: Ed Neigut, UTD-22, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-8483.

Many UMTA reports have addressed this issue. A four-volume series issued in 1973, "Integration of Transit Systems," is available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, 703/557-4650, (UMTA Project RI-06-0005-73-4). Reverse-Commuter service and fare collection arrangements between different transit modes and operators have been experimented with. Information is available from the Transit Research Information Center, or the Marketing Division, Office of Transit Management, UPM-40, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9157.

831-8/ELEMENTARY-SECONDARY TRANSIT EDUCATION

Problem Statement: There is a need to develop an effective elementary and secondary school unit relating to urban transportation.

Solution Considerations: Data should be gathered from agencies presently engaged in such programs and a means of disseminating the information developed.

LOCAL PROGRAMS

School Program and Teen Bus Rally: JACKSONVILLE, FL has two transit education programs. The first is a two-week program for sixth graders, covering transit history, philosophy, operations, funding, and career opportunities. This program utilizes film strips, slides, games, and study materials and includes an all-day field trip and bus tour of the city. Teenagers are introduced to transit through a downtown bus rally, held during Spring vacation and patterned after a sports car rally. Prizes are donated by downtown merchants. As part of this program an Explorer Scout Troop has established a Students for Mass Transit committee in a local school. The committee had an information booth at the Spring Bus Rally to promote mass transit. Contact: Jack K. Johnson, Jacksonville Transportation Authority, 1022 Prudential Drive, Jacksonville, FL 32207, 904/633-2643.

STATE PROGRAMS

Bus Game: THE CALIFORNIA STATE DEPARTMENT OF TRANSPROTATION has developed a transit education program for school students. Instructional materials include 3 slide-tape presentations, a student workbook, and instructor's manual. The program features 10 different versions of a bus game, each adapted to a particular California city. Contact: George Gray, Assistant Director for Mass Transportation, P.O. Box 1139, Sacramento, CA 95805, 916/ 445-3175.

ADDITIONAL PROGRAMS

Education Package: The American Public Transit Association is developing a package to introduce elementary school students to transit. Contact: Albert Engelken, APTA, 1225 Connecticut Avenues, N.W., Suite 200, Washington, DC 20036, 202/828-2800.

831-9/MASS TRANSIT SYSTEMS FOR EVACUATION

Problem Statement: In the event of a civil emergency, mass transit systems should be used for evacuation.

Solution Considerations: Contingency plans should be drawn up for the use of the mass transit systems in various types of disasters.

831-10/COORDINATION OF PARATRANSIT PROVIDERS

Problem Statement: Transportation for elderly, handicapped, and transit-dependent persons is a major concern. To serve metropolitan areas adequately, there should be close coordination or consolidation of the agencies that provide these services.

Solution Considerations: A report illustrating the procedures that have been followed in various areas is needed.

LOCAL PROGRAMS

Improve the Coordination of Paratransit: SAN JOSE, CA is a member of a Paratransit County-wide Council established to promote transportation services to individuals unable to use the public transit system and to coordinate paratransit providers. The executive committee of the council has equal representation from the public sector, service providers, and user groups. Contact: Wayne Tanda, Senior Civil Engineer, City of San Jose, 801 North First Street, San Jose, CA 95110, 408/277-4304.

Social Service Agencies Common Accounting System: DALLAS, TX received an UMTA grant to develop an accounting system that can be used by social service agencies providing client transportation. This will enable the agencies to determine their transportation-related costs and to make more rational fiscal decisions concerning transportation services. Contact: Steven Kanoff, Transportation Planner, Office of Transportation Programs, 1500 Marilla, Room 5C, South Dallas, TX 75201, 214/670-4032.

Transit Brokerage: BALTIMORE, MD is establishing a transit broker system to coordinate all paratransit providers in the city. Contact: Kenneth R. Taylor, Jr., Executive Director, Neighborhood Transportation, Inc., 701 Whitelock Street, Baltimore, MD 21217, 301/396-4359.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has published a series of SMD Briefs on a paratransit agency coodination demonstration in Portland, OR and will be publishing a coordination guide in the Fall of 1979. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004 Attention: Transportation Staff, 202/626-2400.

831-11/TRAINING MATERIALS FOR TRANSIT MANAGEMENT AND OPERATORS

Problem Statement: Currently there are only a few programs available to train transit management and employees. Existing training aids should be available through a central clearinghouse and new aids should be developed.

Solution Considerations: Operator training can be included as part of Section 3 and Section 5 grants under the Urban Mass Transportation Act of 1964, as amended.

LOCAL PROGRAMS

Safety Training and Improvement Program: THE KANSAS CITY AREA TRANSPORTATION AUTHORITY has developed and evaluated two training programs for its bus operators. They are: 1) a classroom instruction program for operator trainees based on personalized system of instruction, and 2) a pilot incentive program aimed at reducing the accident rate of bus operators. The program used team competition, performance feedback, and frequent low-cost incentives. In addition, key members on the incentive teams were taught behavior management skills. One hundred operators out of the 420 operators employed by the Kansas City Area Transportation Authority were randomly selected to participate in the program, over an 18-week period. Contact: Robert Haynes, Kansas City Area Transportation Authority, 1350 East 17th Street, Kansas City, MO, 64108, 816/471-6600.

FEDERAL PROGRAMS

UMTA's Office of Safety and Product Qualification has taught courses and seminars in system safety, reliability and maintainability, transit security, and quality assurance. Contact: Edward J. Boyle, UTD-50, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9545.

831-11/TRAINING MATERIALS FOR TRANSIT MANAGEMENT AND OPERATORS

UMTA's Office of Transportation Management is working to develop training for operators and mechanics in the industry. Standardized programs have been developed and disseminated. Courses and workshops for supervisory management level personnel are being developed in the areas of marketing and labor relations. UMTA feels that training at the general management level should be handled by the transit agency. UMTA Section 10 and Section 8 funds are being provided for this purpose. Contact: Charles T. Morison, Jr., UPM-41, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9274.

831 Mass Transit--Planning and Management

831-12/URBAN BLIGHT STUDY

Problem Statement: Most major cities are facing the problem of urban blight. Downtowns are deteriorating along with neighborhoods surrounding them. What kinds of transportation innovations can be used to stimulate development and provide economic stability?

Solution Considerations: Collect data on cities that have had success in stimulating economic stability and downtown development and disseminate these data to other jurisdictions.

831-13/FIRE SAFETY IN MASS TRANSIT VEHICLES

Problem Statement: The recent opening of new subway systems in Washington and San Francisco has raised concern about the fire safety of newly-designed mass transit vehicles. Problem areas include the use of smoke detectors in vehicles, the flammability of interior materials, the toxicity of resulting products of combustion, the prevention of arson in vehicles, and evacuation problems when passengers are confined in tunnels or elevated rights-of-way.

Solution Considerations: While studies have been performed by individual jurisdictions, as well as by Federal agencies, a more coordinated joint effort is needed. It is critical that fire service personnel and transportation experts pool their resources and talents to address these issues.

LOCAL PROGRAMS

Measures to Reduce Subway Fire Hazards: THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY has implemented several measures to reduce fire hazards in its subway system. In 1974, through an UMTA grant, the MBTA installed: 1) an independently powered lighting system in its tunnels to aid escape in fire emergency, 2) new restored ventilation shafts including modified street grates to permit emergency exit and entrance, 3) a fire alarm system in its Everett maintenance shop, and 4) fire protection in its signal-control relay room. Contact: Charles Steward, Massachusetts Bay Transportation Authority, 50 High Street, Boston, MA 02110, (617) 722-3152.

FEDERAL PROGRAMS

UMTA's Office of Safety and Product Qualification has an on-going project with the Transportation Systems Center (TSC) in Cambridge, Massachusetts to define the problem, identify methods to reduce the threat, and to evaluate and propose appropriate solutions. Products of this project include: a materials information data bank, evaluations of various electrical insulation products, a directory of DOT Fire Research and guidelines for vehicle material selections/specifications for flammability, smoke emission, and toxicity. Contact: Robert Haught, UTD-50, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9545.

ADDITIONAL PROGRAMS

The National Cooperative Transit Research and Development Program is conducting research in this area as part of its 1980 Annual Work Program. Contact: Michael Replogle, Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2468

831-14/LIGHT RAIL TRANSIT PLANNING AND DESIGN

Problem Statement: Criteria for determining light-rail transit location and its advantages need to be identified. Design features also need to be explored.

Solution Considerations: While there are generally-accepted techniques for the analysis of the projected operating costs of light-rail routes, the analysis of the public benefits has not reached a similar level of development. Public benefits relating to land use, travel demand, and other evaluation criteria should be identified. Work previously done by the Transportation Research Board on light-rail transit should be expanded and guidelines developed to provide planning and design guidelines so that the advantages of light-rail transit could be maximized by the least-cost design. The Urban Consortium could establish a dialogue on the adequacy of such criteria and seek to promote wider acceptance of the agreed-upon criteria.

FEDERAL PROGRAMS

UMTA's Office of Technology Development and Deployment, Office of Rail and Construction Technology, sponsors research and development projects in various aspects of light-rail transit. For example, the office is currently sponsoring the revision of the Light-Rail Vehicle Specification developed in the early 1970's by a consortium of light-rail operators. Contact: Stephen S. Teel, UTD-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-0090.

ADDITIONAL PROGRAMS

The Transportation Research Board (TRB) has conducted two national conferences on light-rail transit. The results have been published in a report. TRB also publishes a newsletter entitled "LRT News." A report on surface operation of light-rail transit is expected to be available in late 1979. Contact: Wm. Campbell Graeub, Transportation Research Board, 2101 Constitution Avenue, N.W., Washington, DC 20418, 202/389-6548.

831-15/TAXICABS AS PUBLIC TRANSIT

Problem Statement: Taxi companies throughout the country are going out of business. However, taxicabs can provide a needed door-to-door service to elderly and handicapped persons and residents of rural areas where public transit fixed-route bus systems often are non-existent as well as feeder service to existing transit lines. These services can often be provided on a shared-ride basis. Shared-ride service appears to have certain advantages but in some instances it may be prohibited or discouraged by local or state ordinances.

Solution Considerations: Experiences with innovative, exemplary taxicab services need to be disseminated. Regulatory revision, subsidy and payment methods, and labor concerns need to be examined. A model taxicab ordinance may be useful.

LOCAL PROGRAMS

Shared-ride Taxi Service: WESTPORT, CT provides shared-ride taxicab service as part of a comprehensive package of transportation services coordinated by the Westport Transit District. Contact: Martha Hauhuth, Program Coordinator, 304 Post Road East, Westport Transit District, Westport, CT 06880, (203) 226-0422.

Shared-ride Taxicab Service: CHAPEL HILL, NC initiated shared-ride service in August 1977 as a replacement for an under utilized fixed-route evening service. Contact: Robert Godding, Chapel Hill Transit, City of Chapel Hill, 306 North Columbia Street, Chapel Hill, NC 27514, (919) 929-1111, Ext. 238.

A User-Side Subsidy: KINSTON, NC's user-side subsidy program was implemented in 1978 for elderly and handicapped persons. The subsidy coupons can be used for service from any of the city's taxicab companies. Contact: Patricia Johnson, Assistant City Manager, P.O. Drawer 339, Kinston, NC 28501, (919) 527-2513.

Regulatory Revisions: SEATTLE, WA has revised its regulations to eliminate the ceiling on taxicab licenses and to allow competitive fare pricing. Contact: Regina Glenn, Director, Department of Licenses and Consumer Affairs, Municipal Building, Seattle, WA 98109, (206) 625-2536.

Fixed-Route Replacement: THE TIDEWATER TRANSPORTATION DISTRICT COMMISSION offers a shared-taxi service called Maxi-Taxi. Maxi-Taxi has replaced a fixed route bus service and offers feeder service to existing fixed route transit. Contact: Jeff Becker, Service Development Manager, Tidewater Regional Transit, P.O. Box 6600, Norfolk, VA 23501, (804) 627-9291.

Demand-Responsive Feeder Service: ST. BERNARD PARISH, LA is provided with a demand-responsive taxi feeder service to transit lines serving New Orleans and its suburbs. Contact: Peter Rusck, Arabi Taxi, 6732 1/2 St. Claude, Arabi, LA 70032, (504) 279-5555.

Regulatory Revision: PORTLAND, OR has revised its regulations to eliminate the ceiling on taxicab permits, and to allow special fare rates for shared-ride, jitney, or contract services. Contact: Office of Taxicab Supervisor, Room 211, City Hall, Portland, OR 97204, (503) 248-4151.

FEDERAL PROGRAMS

UMTA's Office of Bus and Paratransit Technology sponsors projects involving shared-ride taxi (SRT) fare computation, computer requirements for SRT, the development of a computer-assisted SRT system for dispatching, scheduling, and routing. Contact: Ed Neigut, UTD-22, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-8483.

UMTA's Office of Service and Methods Demonstrations sponsors projects in this area. Contact: Ronald J. Fisher, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4995.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., published the proceedings of a two day conference on Taxicab Innovations: Services and Regulations. An Information Bulletin on this subject has also been prepared. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

831-16/EFFECT OF FEDERAL GRANT REQUIREMENTS AND RECOMMENDATIONS FOR TRANSIT IMPROVEMENTS

Problem Statement: As the federal transit funding program has grown, the array of requirements with which grant recipients must comply has also flourished. The ensuing paperwork has forced many transit operators to allocate substantial amounts of time to Federally required procedural work and at the extreme has resulted in some systems turning down assistance altogether.

Solution Considerations: The cost of complying with grant requirements in terms of staff time, materials, and costs should be examined. Procedural reforms to speed the obligation of funds should be identified.

ADDITIONAL PROGRAMS

The National Cooperative Transit Research and Development Program is conducting research in this area as part of its 1980 Annual Work Program. Contact: Michael Replogle, Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2468.

831-17/SCHOOL BUS USE FOR NON-SCHOOL TRANSPORTATION

Problem Statement: Recent oil shortages, environmental concerns, and inflation have raised an interest in using school buses to supplement the regular transit system. Many legal, institutional, and physical constraints exist that may inhibit the use of these vehicles even for emergency situations.

Solution Considerations: Information about both successful and unsuccessful programs that use school buses to supplement regular transit service under emergency and non-emergency situations should be collected and disseminated. Information about legal, physical, and institutional constraints also needs to be collected.

LOCAL PROGRAMS

Elderly and Handicapped Service: JOHNSON COUNTY, KS is under contract with a private school bus operator to transport elderly, underprivileged, and mentally handicapped persons to and from vocational workshops and employment centers. Contact: Jim Meyers, General Manager, A.T. Meyers & Sons, Inc., 6200 Carter Street, Merriam, KS 66203, (913) 722-4076.

Public Transportation: MOREHEAD, KY uses school buses to provide hourly, fixed-route service. Prior to inauguration of this service, a single taxicab operator provided the only public transportation service. Contact: Dave Evans, City Administrator, City of Morehead, 168 E. Main Street, Morehead, KY 40351, (606) 965-3211.

Elderly and Handicapped Service: LATAH COUNTY, ID uses publicly owned school buses operated on a contractual basis to an area agency on aging to transport elderly and handicapped people to community services. Contact: Joan Grosse, Supportive Services Coordinator, Area Agency on Aging, 1032 Bryden Avenue, Lewiston, ID 83501, (208) 746-3351.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

831-18/TRANSIT SERVICE TO OUTLYING RECREATIONAL AREAS

Problem Statement: Public transportation often does not serve many recreational facilities located in outlying areas, especially on weekends. Consequently, those without personal forms of transportation are not able to take advantage of these recreational facilities.

Solution Considerations: Public transportation services should be extended to serve outlying recreational facilities perhaps during certain hours on weekdays and weekends. Some cities have special bus schedules for recreational trips, cultural trips, and even "surprise" destination trips.

831-19/TRANSIT PRICING AND TRANSIT FARE ELASTICITY

Problem Statement: A thorough understanding of transit fare elasticity is critical given the potential impact of fare changes on operating revenues, modal splits, service levels, congestion, environmental quality, downtown development, and specialized service needs.

Solution Considerations: The impact of fare changes must be examined for cities of various sizes and with various levels of transit service. The impact of fare-related convenience factors such as transit passes, even versus odd exact change fares, and complex fare systems should be investigated.

FEDERAL PROGRAMS

FHWA has published two reports on this topic, A Review of Reports Relating to the Effects of Fare and Service Changes in Metropolitan Public Transportation Systems and Traveler Response to Transportation System Changes--A Handbook for Transportation Planners. Contact: National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives' Transportation Task Force, through Public Technology, Inc., has prepared proceedings of a two day forum on Transit Pricing Techniques to Improve Productivity. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, Washington, DC 20004, Attention: Transportation Staff, (202) 626-2423.

831-20/MEASUREMENT, ESTIMATION, AND ACCOUNTABILITY FOR TRANSIT SYSTEM PRODUCTIVITY

Problem Statement: There is a need to provide management information methods that transit operators can tailor to their local transit system and operational situations. Such information systems should accept actual system operations and cost data for measurement of productivity. Similarly, the system should permit forecasting and evaluation of productivity measures under assumed operating and cost conditions. Managers who are accountable for different aspects of the system operations should be aware of and contribute to the overall decision-making as various policies are considered and implemented.

Solution Considerations: Collect and disseminate information about state-of-the-art management information system (MIS) approaches being used by transit managers. Continue research and prepare case studies on productivity measurement and forecasting as it relates to transit system goals.

831-21/TRANSIT EMPLOYEE AND PASSENGER SECURITY CASE STUDIES

Problem Statement: Crime and fear of crime are ever growing problems in American society. Passenger perceptions of safety and personal security are major factors in their attitudes towards transit and transit use. The perception of employees is important to their attitude and willingness to work.

Solution Considerations: Case studies of transit passenger security programs in several cities should be prepared. The case studies should address transit-associated crime rate changes, changes in riders and non-riders perceptions of personal security both on and off the vehicle, and the cost effectiveness of various measures.

FEDERAL PROGRAMS

UMTA's Office of Transportation Management has sponsored a national conference on transit security and a demonstration project with the Chicago Transit Authority. Contact: Marvin Futrell, UPM-40, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9274.

ADDITIONAL PROGRAMS

Passenger Safety and Convenience in Automated Guideway Transit is the subject of two volume report written for the Transportation Systems Center. Contact: The National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

The National Cooperative Transit Research and Development Program is conducting research in this area as part of its 1980 Annual Work Program. Contact: Michael Replogle, Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2468.

831-22/ASSESSMENT OF EXPERIENCE WITH UMTA's ALTERNATIVES ANALYSIS PROCESS

Problem Statement: The UMTA alternatives analysis process was created to assure that transit decisions resulted in prudent and effective projects and to serve as a means of easing the burden on constrained Federal resources. Since the procedures were implemented nearly five years ago, over 25 projects have been completed or are now in process. UMTA has been working with the Federal Highway Administration to develop major investment policy for all modes. No comprehensive review has been undertaken to determine whether alternatives analysis has served its intended purposes, or whether it has, in fact, resulted in better decision-making.

Solution Considerations: Case studies of projects subject to the alternatives analysis should be conducted. Emphasis should be placed on the cost of delays to successful alternatives, the relationship of environmental analysis procedures, and benefits that have been derived. Recommendations should be made as to refinements and modifications in the procedures.

FEDERAL PROGRAMS

UMTA's Office of Planning Assistance can provide information on the alternative analysis process. A report on integrating project worthiness into a cost effective framework for alternatives analysis is currently being developed. Contact: Sam Zimmerman, Analysis Division, Office of Planning Assistance, UPM-12 UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-2360.

ADDITIONAL PROGRAMS

The National Cooperative Transit Research and Development Program is conducting research in this area as part of its 1980 Annual Work Program. Contact: Michael Replogle, Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2468.

832-1/FLEET AND DRIVER SCHEDULING

Problem Statement: Scheduling drivers and buses of a large transit fleet by manual techniques is extremely time-consuming and has a high potential for error. Complex labor agreements, schedule constraints, and other problems affect efficiency.

Solution Considerations: 1) Need flexibility in designing new routes, schedules, fleet, and driver requirements. 2) Need rapid response to questions regarding schedules and driver or equipment changes. 3) Need system compatible with union requirements. 4) Need software systems suitable for small and medium-size transit properties.

LOCAL PROGRAMS

RUCUS Installation: THE SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT installed the RUCUS system. Contact: Joel Woodhull, Southern California Rapid Transit District, 425 S. Main, Los Angeles, California, 90013, 213/972-6265.

Schedule Information Data Base System: THE MUNICIPALITY OF METROPOLITAN SEATTLE is installing the RUCUS system and adapting it to produce schedule pages and run cards. Contact: Paul H. Donnelly, Metro Transit, 821 Second Avenue, Seattle, WA 98104, 206/447-6661.

FEDERAL PROGRAMS

UMTA's Office of Planning Methods and Support is developing improved methods of estimating fleet and driver requirements for short range and operational planning scenarios. UTPS computerized planning capabilities will be interfaced with RUCUS to permit transition from planning to determination of implementable schedules. Contact: Robert B. Dial, UPM-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4271.

832-1/FLEET AND DRIVER SCHEDULING

UMTA's Office of Transit Management maintains the RUCUS system and has assisted in its application to various transit properties. Contact: Brian Cudahy, UPM-40, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9274.

832-2/TRANSIT SYSTEM PRODUCTIVITY

Problem Statement: Personal service costs constitute a very high percentage of the cost of running a transit system. Techniques to increase labor productivity and other system improvements are crucial in the face of rising operating costs.

Solution Considerations: More information is needed concerning the benefits, and applicability in various situations, of 1) transit performance indicators, 2) improved methods of scheduling and vehicle assignment, 3) on- and off-board fare collection methods, 4) the use of articulated buses, 5) use of part-time employees and full-time drivers in off-peak periods, 6) changing the locations of satellite facilities to reduce dead-heading, 7) systems to improve maintenance efficiency, 8) the use of on-street and on-board information and communication equipment to permit real-time bus control, 9) reserved lanes, signal priorities, staggered hours, auto disincentives, and other actions to reduce the effects of congestion on transit operations, and 10) the development of paratransit services to feed and supplement transit service.

LOCAL PROGRAMS

Part-time Transit Operators: THE MUNICIPALITY OF METROPOLITAN SEATTLE has negotiated a labor agreement permitting use of part-time drivers in peak periods. Contact: Dan Gracyzk, Metro Transit, 821 Second Avenue, Exchange Building, Seattle, WA 98104, 206/447-6587.

Productivity Improvement Program: THE SANTA CLARA COUNTY TRANSPORTATION AGENCY'S major divisions prepare an annual productivity improvement program. The continuous process of monitoring, analyzing, evaluating, programming, and improving existing transit services is designed to maximize operating efficiency. Contact: Louis Montini, Santa Clara, 1555 Berger Drive, San Jose, CA 95112, 408/299-2362.

832-2/TRANSIT SYSTEM PRODUCTIVITY

Productivity Standards: ANCHORAGE, ALASKA is developing productivity standards for use in prioritizing service improvements during a scheduled rapid expansion of the transit system. Contact: Stanley Green, Department of Planning, Pouch 6-650, Anchorage, AK 99502 907/264-4251.

Prototype Study and Bus Service Evaluation Program: THE TIDE-WATER TRANSPORTATION DISTRICT COMMISSION has a project funded by UMTA's Office of Planning Assistance to develop a prototype method for evaluating bus service effectiveness and efficiency in small- and medium-size cities. Phase I of the project entailed a joint study with the Massachusetts Bay Transportation Authority of the bus service evaluation methods used by 300 transit properties. A preliminary report is available through UMTA. Phase II of the project will develop a prototype evaluation technique. The objectives of the prototype development program are to (1) maximize route ridership subject to an upper limit on cost per passenger and (2) minimize operating costs required to carry a given number of passengers. Standards for the variables which influence the objectives are also being developed. A final report will be available in October 1979. Contact: Jeff Becker, Tidewater Transportation District Commission, 509 E. 18th Street, Norfolk, VA 23504, 804/627-9291.

Service Deployment and Evaluation Policies: THE SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT has adopted level-of-service policy guidelines and service standards to address critical productivity and equity issues. Contact: Joel Woodhull, Senior Planner, Southern California Rapid Transit District, 425 S. Main, Los Angeles, California 90013, 213/972-6265.

Service Evaluation Criteria: THE MUNICIPALITY OF METROPOLITAN SEATTLE has developed criteria for route performance evaluation in the areas of peak and midday minimum productivity (passengers trip relative to headway and passengers/bus hour relative to population density), on-time reliability, seat availability, and directness of service (route deviations). Contact: Robert B. Simpson, Metro Transit, 821 Second Avenue, Seattle, WA 98104, 206/447-6781.

FEDERAL PROGRAMS

UMTA's Office of Program Evaluation manages activities aimed at improving transit performance, and is responsible for the policy context of productivity improvement. Contact: Sam Rea, UPP-20, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4058.

UMTA's Office of Service and Methods Demonstrations sponsors a variety of projects designed to improve transit productivity, including reserved lane and signal pre-emption projects, fare collection experiments, traffic restrictions, and others. Contact: Ronald J. Fisher, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4995.

832-2/TRANSIT SYSTEM PRODUCTIVITY

UMTA's Office of Transit Management sponsors projects for productivity improvement, with special reference for management efficiency. The RUCUS (computerized run-cutting and scheduling) and SIMS (service inventory and maintenance system) packages and managed by this office. Contact: Brian Cudahy, UPM-40, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9274.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with productivity improvement. Proceedings of the First National Conference on Transit Productivity held in September 1977, at Norfolk, VA, are also available. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has issued a series of SMD Briefs on the UMTA funded transit productivity demonstration at Omaha, NE. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention Transportation Staff, 202/626-2400.

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has developed a compendium of transit productivity improvement actions based on five regional meetings on transit productivity. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

832-3/A MANAGEMENT INFORMATION SYSTEM FOR TRANSIT OPERATIONS

Problem Statement: Under private ownership, transit accounting systems were tailored to the requirements of the private owners and regulatory agencies. In few cases were basic changes made in these accounting systems when operations were assumed by public agencies. There is very little comparability of basic data among properties making comparisons and measurements difficult if not impossible.

Solution Considerations: Beginning in 1979, UMTA will require the reporting of operational and financial data under the uniform reporting system mandated by section 15 of the Urban Mass Transportation Act of 1964, as amended. Beginning in 1980, this system will be expanded to include demographic and ridership data.

LOCAL PROGRAMS

Management Information System for Small Transit Systems: THE SANTA BARBARA METROPOLITAN TRANSIT DISTRICT is developing a low cost, computerized information gathering and storage system for the management of small transit systems. A micro-computer will replace the present data gathering system and will be designed to accommodate the section 15 reporting requirements. The system will not require a separate data processing department, but can be used directly by existing management to obtain necessary information. A training manual for information recording and retrieval will be developed for the different information needs of each department. Contact: Gary J. Gleason, Santa Barbara Metropolitan Transit District, 550 E. Cota Street, Santa Barbara, CA 93101, 805/963-3364.

FEDERAL PROGRAMS

UMTA's Office of Transportation Management administers section 15. Contact: A.B. Hallman, UPM-40, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9274.

832-4/EQUIPMENT MANAGEMENT

Problem Statement: Transit operations generally include a fleet of both revenue and service vehicles. Maintenance and development of these vehicles is a major operating expense. Transit managers need a system which will assure that these activities are efficiently operated.

Solution Considerations: There is a need for a computer-based system for recording and predicting maintenance and vehicle deployment needs.

FEDERAL PROGRAMS

UMTA's Office of Transportation Management has developed a package of solutions to these needs under the Transit Operations and Maintenance System (TOS) program. Contact: A.B. Hallman, UPM-40, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-9274.

ADDITIONAL PROGRAMS

Public Technology, Inc. has developed a system of shop forms, record-keeping procedures, management report formats, and supporting computer program tapes. The system includes complete documentation for equipment maintenance personnel, management, data processing technicians, and the implementing project team, together with on-site assistance from Public Technology, Inc.'s local government Information Systems group. The benefits of the system of are 1) local government can expect to increase the available time for equipment utilization while decreasing the number of pieces of backup equipment, and 2) the system will facilitate the development of cost-effective equipment maintenance programs. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Equipment Management Project, 202/ 626-2400.

832-5/PORTABLE, COMPUTER-LINKED ROUTE INDICATOR

Problem Statement: Most demand-responsive transit systems have very low vehicle productivity with high per-mile cost. In some cases, this may reflect reliance on manual routing in circumstances when a manual routing system is inadequate to meet local requirements.

Solution Considerations: Development of a computer-linked route indicator that would use as inputs the pickup and destination points given by callers. The indicator could then make real-time route changes in response to service requests.

FEDERAL PROGRAMS

UMTA's Office of Bus and Paratransit Technology has a research activity in this area. Contact: Ed Neigut, UMTA, UTD-22, 400 7th Street, S.W., Washington, DC 20590, 202/426-8483.

UMTA's Office of Service and Methods Demonstrations dial-a-ride activities have yielded valuable experience concerning computer linked routing techniques. Contact: Ronald J. Fisher, UMTA, UPM-30, 400 7th Street, S.W., Washington, DC 20590, 202/426-4995.

832-6/SCHEDULE CONFORMANCE

Problem Statement: Bus productivity is significantly degraded by bunching of buses, which reduces reliability and often results in headways far in excess of schedule frequency. In addition, rigid, inflexible schedules which do not accommodate real time changes in passenger demand contribute to lower bus productivity.

Solution Considerations: Freeing buses from the effects of congestion is necessary to insure schedule conformance. Traffic management and transit priority actions, such as lane reservations, signal preemption, bypass and exclusive facilities may yield minor improvements in transit speed and reliability. Properly integrated and coordinated, they can minimize schedule disruption. Automatic vehicle monitoring (AVM) systems which permit real time command and control of bus fleets and automatic collection of management and planning data, may assist a driver in maintaining his schedule, may assist in the selection of a more flexible schedule for a group of buses on a route and reduce data collection costs.

FEDERAL PROGRAMS

FHWA's Office of Transit and Traffic Engineering manages a program of research and assistance in this area. Contact: Donald Morin, FHWA, HHP-26, 400 7th Street, S.W., Washington, DC 20590, 202/426-0210.

UMTA's Office of Bus and Paratransit Technology manages a program to investigate, develop and evaluate advanced communications and automatic vehicle monitoring systems. Contact: Denis J. Symes, UTD-22, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-4035.

UMTA's Office of Service and Methods Demonstrations has carried out a variety of evaluations of techniques to improve transit speed and reliability. Contact: Joe Goodman, UMTA, UPM-30, 7th Street, S.W., Washington, DC 20590, 202/426-4995.

832-7/NEW STANDARD BUS EQUIPMENT

Problem Statement: There are a variety of problems with present transit vehicles, including lack of equipment for elderly and handicapped persons, noise and air pollution, energy consumption, and a lack of a range of bus sizes. Standardization of vehicle specifications would allow for market aggregation, which could make it feasible to approach the private sector on development of new vehicles or modification of the old.

Solution Considerations: A survey process should be devised to identify problems with present vehicles. The questionnaire should be pretested by Urban Consortium Task Force members and then sent to all Urban Consortium jurisdictions.

STATE PROGRAMS

Wheelchair Lifts: THE CALIFORNIA DEPARTMENT OF TRANSPORTATION has a program in which passive wheelchair lifts, manufactured by four different firms, are being retrofitted on three different makes of urban transit buses. This program provides testing, demonstration, and evaluation of the passive lifts to further the state-of-the-art. The final report will enable transit systems to write specifications for lifts which meet their needs. Contact: Carl Stewart, Chief, Facilities Research, Caltrans, P.O. Box 1499, Sacramento, CA 95807, 916/332-1413.

Wheelchair Securement: THE CALIFORNIA DEPARTMENT OF TRANSPORTATION has developed safety specifications for the loading of a wheelchair-bound person onto a transit bus. Various wheelchair securement methods have been tested and evaluated. Reports covering the findings and recommendations will be completed in Fall 1979. Contact: Carl Stewart, Chief, Facilities Research, Caltrans, P.O. Box 1499, Sacramento, CA 95807, 916/332-1413.

832-7/NEW STANDARD BUS EQUIPMENT

FEDERAL PROGRAMS

UMTA's Office of Bus and Paratransit Technology is responsible for research and development on buses, including prototype demonstration and the testing of new equipment. Contact: Wilhelm Raithel, UMTA, UTD-20, 400 7th Street, S.W., Washington, DC 20590, 202/ 426-4035.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this subject. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004 Attention: Transportation Staff, 202/626-2400.

832-8/MODERN TROLLEY COACH OVERHEAD

Problem Statement: In the U.S. trolley coach overhead is of a standard design, produced by only one manufacturer. This design requires slow operation through turnouts and crossings. Overhead connection of one foreign manufacturer's equipment allows for high-speed operation, maximizing the opportunity to utilize the performance characteristics of the trolley coach.

Solution Considerations: 1) Obtain and catalog available data on foreign and domestic trolley coach overhead, with emphasis on off-wire mobility and high-speed operations capability. 2) Design and execute a large-scale test of overhead on a major trolley coach line, specifying compatible trolley shoes.

LOCAL PROGRAMS

Comparative Study: THE MUNICIPALITY OF METROPOLITAN SEATTLE can provide information on a study entitled "Overhead Hardware Evaluation" that compares European and American hardware. Contact: Stephen T. Cavit, Metro Transit, Public Information Section, 821 Second Avenue, Seattle, WA 98104, 206/447-6682.

FEDERAL PROGRAMS

UMTA's Office of Bus and Paratransit Technology is evaluating an automatic power collection system (by Dornier) which is currently being used on the West German DUO-Bus. Contact: James F. Campbell, UTD-23, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4035.

832-9/INNOVATIVE FARE SYSTEMS

Problem Statement: Insufficient information exists about such fare systems as 1) the use of prepaid weekly or monthly passes, 2) the honor system, 3) the involvement of the private sector in fare collections, and 4) the application of electronic fund transfer systems to fare collection, and the ability of various fare mechanisms to stimulate new ridership, provide lower fare collection costs, improve peak-to-base rates, and improve transit efficiency.

Solution Considerations: 1) The revenue and patronage effects of various types of prepaid passes should be documented and, when necessary, demonstrated. 2) Practical issues related to the honor system, such as the savings in boarding time resulting from the use of all doors for entry, and the feasibility of enforcement through random inspections and high on-the-spot fines, need to be resolved. 3) Payroll deduction transit fare plans, employer subsidization of employee transit fares, provision of transit tokens by merchants, and other inducements should be demonstrated. 4) The purchase of transit passes or individual trips through credit card or other non-cash mediums should be considered. 5) Fare policies and collection systems are means of maximizing consumer appeal and improving the efficiency of transit operations.

LOCAL PROGRAMS

Dimetown: THE KANSAS CITY AREA TRANSPORTATION AUTHORITY eliminated downtown circular routes and replaced them with a special $0.10 fare zone, which allows travel within the downtown area on any bus in regular service. **Contact**: John Dabies, Director of Systems Development, Kansas City Area Transportation Authority, 1350 East 17th Street, Kansas City, MO 64108, 816/471-6600.

Employee Pass Discount: THE DALLAS TRANSIT SYSTEM introduced a monthly pass priced at 33-38 times the base fare. These passes are sold to employers at a $2.50 discount if the employer will pass the savings on to employees.

presently 50% of the monthly passes are sold through the employer discount program. Contact: Cliff Franklin, Dallas Transit System, 101 North Peak Street, Dallas, TX 75226, 214/827-3400.

Liberalized Transfer and Periodic Elimination of Time Restrictions on Sunday Transfers: MILWAUKEE COUNTY TRANSIT SYSTEM. Trips of short length and short duration are often discouraged by the payment of two fares. Likewise, multi-purpose trips requiring stopovers are also discouraged. In 1976, all transfer restrictions other than time limitation were eliminated and payment of fare entitled the passenger to a transfer that, in effect, was a one-hour pass. This permitted persons making trips of short duration to make a round trip with payment of only one fare and also permitted stopovers. The Milwaukee County Transit System also eliminated time restrictions on the transfer for all Sundays in August 1978. Because the transfer can regularly be used on any route in any direction, it in effect became an all-day pass during the promotion. Average Sunday ridership was 99,850 rides, an increase of 61% over the expected ridership of 62,025. Average Sunday cash and ticket revenue increased by 4% from $11,700 to $12,200. Contact: Kenneth J. Warren, Milwaukee County Transit System, 4212 W. Highland Boulevard, Milwaukee, WI 53208, 414/344-4550.

Prepaid Fare Demonstration: THE JACKSONVILLE TRANSPORTATION AUTHORITY has developed a pass and alternative peak-hour pricing schedule. Phase I of this project identified employers who would provide for employee pass sales, payroll checkoffs, and a special discount on fringe benefit programs. Under Phase I 30 employers participated in the program and pass sales, at $14.00 each, increased an average of 15% each month over a 3 month period. A passenger survey indicated that 18% of those participating in the program formerly used automobiles. Phase II of this program will test the price elasticity of demand by reducing the pass cost to $12.00. At the end of Phase III (September 1979) the program will be reevaluated. Contact: Jack K. Johnson, Jacksonville Transportation Authority, 1022 Prudential Drive, Jacksonville, FL 32207, 904/633-2643.

Prepaid Sales Program: THE SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT has a prepaid sales program that includes various types of monthly passes and arrangements for their purchase, a tourist pass, and a Sunday pass. Contact: Anthony Fortuno, Director of Marketing, Southern California Rapid Transit District, 425 S. Main, Los Angeles, California 90013, 213/972-6197.

Transcard: THE METROPOLITAN ATLANTA RAPID TRANSIT AUTHORITY has devised a transcard which costs the holder $10.00 for unlimited bus trips for a one month period. The ordinary fare is $0.25, with free transfers. The transcard is sold at a downtown "ride store" and local businesses. One convenience is that a company can provide a payroll deduction plan for its employees who wish to purchase the transcard. During the first month of its availability 13,580 cards were sold and in the following months these figures increased by 1,000-2,000 sales. Contact: Susan Hood, City of Atlanta, Bureau of Planning, 10 Pryor Street, Atlanta, GA 30303, 404/6306.

Weekly Bus Pass: THE MILWAUKEE COUNTY TRANSIT SYSTEM offers a weekly bus pass for $5.00, which is 10 times the regular adult fare. The pass is transferable and can be purchased at more than 200 retail outlets. A 2% commission is returned to the retail outlets. Over 20,000 passes are sold each week. Over 40% of all adult rides are made by using the weekly pass. Contact: Kenneth J. Warren, Milwaukee County Transit System, 4212 W. Highland Boulevard, Milwaukee, WI 53208 , 414/344-4550.

FEDERAL PROGRAMS

UMTA's Office of Service and Methods Demonstrations is funding several fare structure and collection demonstrations, including free off-peak service, transit passes, and employer involvement in fare collection. Background and implementation reports are available. Contact: Bert Arrillaga, UPM-30, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4984.

UMTA's Office of Transit Management is concerned with fare collection methods as part of its role in fostering modern transit marketing. Contact: Brian Cudahy, UPM-40, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9274.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has published a series of SMD Briefs on UMTA-funded transit fare prepayment demonstrations in Sacramento, CA, Phoenix, AZ and Austin, TX; the UMTA-funded user-side subsidy demonstration in Danville, IL and the UMTA-funded free fare demonstrations in Denver, CO and Mercer County, NJ. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc. has published the Proceedings of the Forum on Transit Pricing Techniques to Improve Productivity which was held in March 1979. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, Attention: Transportation Staff, 202/626-2400.

832-10/SCREENING PROCESS FOR PROSPECTIVE TRANSIT VEHICLE OPERATORS

Problem Statement: There is a need for a screening process to identify those job applicants who, when given proper training, will make good bus drivers. An effective screening process will protect the training investment.

Solution Considerations: Bus drivers are constantly in touch with the public and often under stress. A process that identifies those suited for this type of public service might also be useful to police and fire departments. Such a screening process would have to protect the civil rights of applicants.

LOCAL PROGRAMS

Self-screening Tool: THE MUNICIPALITY OF METROPOLITAN SEATTLE has used a self-screening tool with some success for permanent full-time job applicants. This tool is a written narrative which requires the applicant to affirm his or her ability and willingness to work odd, irregular, and long hours for up to two years as a condition of employment. The narrative emphasizes the negative aspects of the job, yet indicates the positive aspects of seniority. The tool identifies at an early stage applicants who are not qualified for or serious about careers as transit operators. Contact: Eugene C. Matt, Employment Supervisor, Metro Transit, 821 Second Avenue, Seattle, WA 98104, 206/447-6883.

Test Battery for Bus Operator Selection: THE MEMPHIS AREA TRANSIT AUTHORITY administers a battery of three untimed, self-evaluation tests to bus operator applicants. This battery of tests was formulated by a team University of Chicago psychologists. Contact: Faye Beck, Memphis Area Transit Authority, 701 No. Main Street, Memphis, TN 38103, 901/528-2881.

Validated Test Battery: THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY, with UMTA financial assistance, has developed a test battery for operator selection that is now used by over 20 transit systems. The test is valid for white, black, and Spanish-speaking males and is currently being validated for females. Its non-discriminatory character has been upheld by the courts. Contact: Dr. Chester Higgins, MBTA, 50 High Street, Boston, Massachusetts 02110, 617/722-3280.

832-11/TRANSIT BUS AIR-CONDITIONING STANDARDS

Problem Statement: New UMTA bus air-conditioning specifications call for a capacity to lower bus interior temperatures 15 degrees below outside temperatures. These specifications may result in a lack of availability of new buses suitable for operation in areas with extremely hot climates. What is the effect on energy consumption of turning off air conditioning? How significant are patronage losses? Is there more than one type of air conditioning equipment available?

Solution Considerations: 1) Modify UMTA specifications to be adaptable to the needs of regions that experience this problem. 2) Develop an auxiliary cooling system to supplement the factory-produced system. 3) Develop new technology which is energy efficient and allows the temperature to be lowered below 15 degrees.

FEDERAL PROGRAMS

UMTA's Office of Bus and Paratransit Technology has contracted Garrett Airesearch to conduct a conceptual design study for Advanced Design Buses. Contact: James F. Campbell, UTD-23, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-4035.

832-12/TRANSIT BUS IMPROVED BRAKE MATERIALS

Problem Statement: The choice of brake materials and braking mechanisms is critical to the safety and economy of transit bus operations. Brake materials on new buses have not performed well, getting 10,000-15,000 per reline as compared to 50,000-60,000 miles on older buses. Brake pads that include asbestos may pose environmental and health threats.

Solution Considerations: Brake materials should be tested to identify those that provide maximum mileage and safe operations. Testing should be conducted by brake dynomometer and in the field with a cooperating transit property. Test documentation should include: maintenance costs, brake lining life, and brake performance. If the duty cycle is less than 50,000 miles, development and testing of advanced brake systems should be considered. European experiments with methods for converting the braking phase into useful energy with storage techniques including fly wheels, compressed air, and electrical storage should also be investigated.

ADDITIONAL PROGRAMS

The National Cooperative Transit Research and Development Program is conducting research in this area as part of its 1980 Annual Work Program. Contact: Michael Replogle, Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2468.

832-13/LIFT TECHNOLOGY

Problem Statement: To date, the technology required for accessible vehicles has not been perfected. Those cities that have ordered and used lift-equipped vehicles have found that many of the vehicles' lifts do not operate properly and require a high degree of maintenance.

Solution Considerations: Transit operators require additional technical and financial assistance as they attempt to develop a lift system that is safe and reliable and can be used efficiently in revenue service.

832-14/TRANSIT BUS REHABILITATION

Problem Statement: Substantial ridership increases on transit lines, particularly under energy crisis conditions, make it desirable to expand transit bus fleets. However, new buses are becoming increasingly expensive and it often takes a long time to receive the vehicles once an order has been placed. Rehabilitation of old buses can provide additional vehicles in the short term and at a lower cost than new vehicles.

Solution Considerations: Research needs to focus on rehabilitation standards and criteria, technology support needs, planning requirements and financing methods for bus rehabilitation.

LOCAL PROGRAMS

Bus and Trolley Rehabilitation: SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY has embarked on an ambitious bus and trolley rehabilitation program. SEPTA plans to rehabilitate 270 buses and 148 trolley cars. SEPTA is rehabilitating these vehicles because new vehicles cannot be purchased quickly enough. Contact: Southeastern Pennsylvania Transportation Authority, 2028 PSFS Building, 12 South 12th Street, Philadelphia, PA 19107, (215) 574-7300.

A Feasibility Study: THE GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY is conducting an study to determine the feasibility of rehabilitating bus and rail vehicles. The cost-effectiveness, the impact of government regulations, and other factors will be considered. Contact: RTA, 615 West Superior, Cleveland, OH 44113, (216) 781-5100.

A Comparative Cost Analysis: THE REGIONAL TRANSPORTATION DISTRICT OF DENVER is conducting an analysis of the cost and quality of rehabilating buses in-house versus with an outside contractor. The results of this effort will be used in determining RTD's future involvement in bus rehabilitation. Contact: Michael M. Smith, Assistant General Manager, Maintenance Division, RTD, 1325 South Colorado Boulevard, Denver, CO 80222, (303) 759-1000.

FEDERAL PROGRAMS

UMTA's Office of Transportation Management has published a report titled: Survey and Analysis of Bus Rehabilitation in Mass Transit Industry. Contact: A.B. Hallman, UPM-43, UMTA, 400 7th Street, S.W., Washington, DC 20590, (202) 426-9274.

832-15/IMPROVED TRANSIT BUS ENERGY EFFICIENCY AND PRODUCTIVITY

Problem Statement: Advanced Design Buses introduced in recent years require increased energy over the buses replaced. This is the result of required emission control equipment, safety equipment, noise abatement equipment, and passenger comfort provisions. Advanced Design Buses also have fewer seats than previous new look buses. This results in greater energy usage per seat than older buses.

Solution Considerations: 1) Review and identify causes of increased energy use in new buses. Identify means and effectiveness of corrective measures. 2) Review and identify causes of reduced seating capacity of 40' Advanced Design Buses and recommend means to increase seating capacity.

ADDITIONAL PROGRAMS

The National Cooperative Transit Research and Development Program is conducting research in this area as part of its 1980 Annual Work Program. Contact: Michael Replogle, Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2468.

832-16/IMPROVED TRANSIT BUS INTERIOR CLEANING EQUIPMENT AND PROCEDURES

Problem Statement: Transit bus interiors must be cleaned daily so that buses are attractive to passengers. Most operators bring buses to stationary cleaning equipment to reduce labor requirements. This is usually at the fuel island. Present equipment uses air flow to blow trash out the front door of the bus, but turbulence causes dust to settle on seats and windows. An alternative is hand sweeping, but that is time-consuming and expensive.

Solution Considerations: 1) Review alternate air flow methods, graffiti removal, and vermin control. 2) Evaluate types of vacuum cleaner equipment, both portable and stationary. 3) Examine quality and time standard for cleaning operation. 4) Identify the most effective equipment and work procedures.

ADDITIONAL PROGRAMS

The National Cooperative Transit Research and Development Program is conducting research in this area as part of its 1980 Annual Work Program. Contact: Michael Replogle, Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2468.

832-17/IMPROVED ELECTRIC ENERGY USAGE

Problem Statement: Light and heavy rail systems are subject to high demand due to peak transit load being coincident with peak utility load. This usually occurs in the summer afternoon rush hour on hot days with a high air conditioning load. Several transit operators have developed strategies to "share the peak" by reducing certain non-critical loads, vent fans, escalators, and lighting during peak hours.

Solution Considerations: Disseminate information about the most effective methods to reduce the cost and usage of energy.

ADDITIONAL PROGRAMS

The National Cooperative Transit Research and Development Program is conducting research in this area as part of its 1980 Annual Work Program. Contact: Michael Replogle, Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004, (202) 626-2468.

832-18/SMALL BUS STANDARDS

Problem Statement: In the past, the demand for small buses has not been great and small buses have been characterized by excessive down time and a relatively short vehicle life. But the demand for small buses is increasing as is the demand for a set of small bus standards.

Solution Considerations: Information about existing small bus standards, such as those developed by state governments, should be disseminated.

STATE PROGRAMS

Small Bus Specifications: MICHIGAN's Department of Transportation has developed specifications for four different types of small buses. These specifications have been revised periodically to reflect the State's experience with various vehicles. Contact: Kip Grimes, Small Bus Manager, Bus Transit Division, Michigan DOT, P.O. Box 30050, Lansing, MI 48909, (517) 374-9183.

841 Aviation--Ground Transportation

841-1/AIRPORT ACCESS

Problem Statement: During 1977, over 155 million passengers were enplaned in the 37 Urban Consortium jurisdictions; for the 10 largest jurisdictions, this represents an average of 26,000 enplanements a day. Recent increases in passenger traffic, along with a rapid growth in air freight, have adversely affected airport access. Problems include congestion, visitor transportation, and parking. Several airports (San Francisco, Washington National) regularly run out of airport parking. Complicating the problem are funding restrictions that prevent the use of Airport and Airway Development Aid Program funds for most access-related problems.

Solution Considerations: A number of urban area access studies have been conducted. An initial effort might include an inventory of these studies and the impacts of attempted solutions.

LOCAL PROGRAMS

Airport Rapid Transit: CLEVELAND, OH has a direct rail rapid transit service between The Hopkins International Airport and downtown Cleveland. This is a viable alternative to driving to and from the airport. Contact: William Robinson, Assistant to the Director of Port Control, Cleveland's Hopkins International Airport, 5300 Rocky River Drive, Cleveland, OH 44135, 216/265-6000.

Fly Away Bus Program: LOS ANGELES, CA has initiated bus service from Van Nuys and downtown Los Angeles to Los Angeles International Airport featuring a reliable and frequent schedule, centrally located bus terminals, and very inexpensive parking at the bus terminals. In 1978 the service was used by over 400,000 persons. New regional sites have been selected and expansion is anticipated by early 1980. Contact: John L. Graham, Department of Airports, 1 World Way, Los Angeles, CA 90009, 213/646-7116.

Signal Preemption: WASHINGTON, D.C. is cooperating in an interjurisdictional demonstration program to improve transit access to the Dulles International Airport. A signal-preemption device will allow airport buses to leave the terminal boarding area and enter a heavily-travelled downtown arterial street, saving up to five minutes in travel time a trip. Contact: Seward Cross, Bureau of Traffic Engineering and Operations, Department of Transportation, 613 G Street, N.W., Room 617, Washington, DC 20001, 202/727-5873.

STATE PROGRAMS

Limousine Transfer Terminal: The Baltimore-Washington International Airport provides limousine service to and from the airport with a State-owned fleet of 12 vans and limousines and 10 intercity buses. In addition, 2 local contract carriers provide door-to-door service between residences or offices and a limousine terminal to the Maryland suburbs of Washington, D.C. One way fares vary from $8 to $10, depending upon pickup locations. The operation pays for itself. Contact: William J. Connors, Jr., State Aviation Administration, P.O. Box 8766, Baltimore-Washington International Airport, MD 21240, 301/787-7068.

FEDERAL PROGRAMS

FAA's Associate Administrator for Policy and International Aviation Affairs conducts studies and publishes reports on airport-related subjects such as land banking, the future need for new major airports, and airport terminal area financial data. Contact: Thomas P. Messier, ASP-1, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, 202/426-3070.

FAA's Office of Airport Planning and Programming administers a Federal planning grant program that provides matching funds to eligible public and planning agencies for airport access planning accomplished in conjunction with airport master planning studies and airport system planning studies. Contact: Lowell H. Johnson, AAP-500, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, 202/426-3831.

FAA's Office of Airport Planning and Programming administers the Airport Development Aid Program which provides Federal matching funds for eligible projects located on the airport within nonrevenue-producing areas. The work can include access roads or terminal development related to the movement of passengers and baggage. Contact: Lowell H. Johnson, AAP-500, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, 202/426-3831.

841-1/AIRPORT ACCESS

FAA's Office of Systems Engineering Management completed an "Airport Ground Access" report directed by the U.S. Senate Committee on Appropriations. The main objectives of this study were to 1) identify and project the access capacity of representative airports and 2) determine if access needs at these airports are adequately considered within the planning process. The initial report was issued in April 1978, and the follow-up was completed in the fall of 1978. Contact: Richard J. Marek, AEM-200, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, 202/426-8796.

ADDITIONAL PROGRAMS

The Urban Consortium for Technology Initiatives Transportation Task Force, through Public Technology, Inc., has developed an Information Bulletin dealing with this need. Contact: Public Technology, Inc., 1301 Pennsylvania Avenue, N.W., Washington, DC 20004 Attention: Transportation Staff, 202/626-2400.

841-2/INTRA-TERMINAL MOVEMENT

Problem Statement: Transportation between terminals, garages, and parking areas is very difficult due to congestion.

Solution Considerations: 1) A people-mover study could help to determine optimal technologies for a relatively low-capacity, medium-speed system. 2) Study the impacts of speed-walk projects currently in operation. 3) The movement system should be safe, efficient, and low-cost.

LOCAL PROGRAMS

Airport Tram Service: SAN JOSE, CA uses two 10-passenger vans with high roofs to shuttle passengers to and from the airport terminal. Stops are located throughout the parking lot so that the maximum walking distance is 200 feet. Through this system parking has been expanded without the construction of multi-storied structures. Contact: Verne B. Troup, San Jose Municipal Airport, 1661 Airport Boulevard, San Jose, CA 95110, 408/277-4721.

Passenger Movement: CLEVELAND, OH's airport problems were abated by the construction of a parking garage. The distance between the garage and the airport caused problems for passengers. This was alleviated by installing moving sidewalks (speedwalks) connecting the terminal and the garage. Contact: William Robinson, Assistant to the Director of Port Control, Cleveland Hopkins International Airport, 5300 Rocky River Drive, Cleveland, OH 44135, 216/265-6000.

Underground Tunnel: THE MEMPHIS-SHELBY COUNTY AIRPORT AUTHORITY has built an underground tunnel to connect the three main terminal buildings with planned new terminal complexes to the east. A people-mover will be installed to provide direct access to all terminal buildings. Contact: W.M. Fletcher, Memphis-Shelby County Airport Authority, P.O. Box 30168, Memphis, TN 38130, 901/345-7777.

Pedestrian Bridges: DADE COUNTY, FL built connecting pedestrian bridges with moving sidewalks between the parking garage and passenger terminal. The moving sidewalks facilitate pedestrian movement by reducing the required vertical and horizontal movement and shortening the required trip time from five to eight minutes. Contact: I.H. Carr, Dade County Aviation Department, P.O. Box 592075 AMF, Miami, FL 33159, 305/526-2380.

Peripheral Parking Lots: LOS ANGELES, CA constructed two large peripheral parking facilities to alleviate traffic congestion in the central terminal area. These lots are 1/2 mile and 2-1/2 miles away and parking costs $2 a day and $1.50 a day respectively. Free tram rides to and from the central terminal area are provided and the lots are well utilized. Effective June 1, 1979, the first 3 hours parking are free in these lots to encourage pickup and delivery during peak congestion periods at terminal curb sites. Contact: John L. Graham, Department of Airports, 1 World Way, Los Angeles, CA 90009, 213/646-7116.

FEDERAL PROGRAMS

FAA's Associate Administrator for Policy and International Aviation Affairs conducts studies and publishes reports on airport-related subjects such as land banking, the future need for new major airports, and airport terminal area financial data. Contact: Thomas P. Messier, ASP-1, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, 202/426-3070.

FAA's Office of Airport Planning and Programming administers the Airport Development Aid Program which provides Federal matching funds for airport terminal development in nonrevenue-producing public-use areas which are directly related to the movement of passengers and baggage. Contact: Lowell H. Johnson, AAP-500, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, 202/ 426-3831.

FAA's Office of Systems Engineering Management has had an Airport Landside program underway for the past few years. Included in this program are the development and validation of an Airport Landside Simulation Model. This model simulates the behavior of persons and vehicles moving through the landside system between the airport perimeter fence and the passenger loading gate. The simulation is modular with each node treated individually, or the system as a whole. Various new systems such as people movers can be introduced into the simulation and the relative benefits assessed quantitatively. An Airport/Landside Capacity Handbook, including the model user's manual and representative applications, will be available in FY-80. Contact: Richard J. Marek, AEM-200, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, 202/426-8796.

UMTA's Office of Technology Development and Deployment administers a research grant with the Tri-State Regional Planning Commission for development of accelerating walkways. Accelerating walkways are a promising new transportation mode for transporting travelers over short distances (300-3,000 ft.) approximately at speeds of 5 to 7 mph. An accelerating walkway demonstration is tentatively planned for the Conrail Terminal in Hoboken, New Jersey. The system will provide intra-terminal transit for commuters transferring from Conrail's suburban railroad trains to the PATH trains to New York city. Airport applications for accelerated walkways include use as a landside connector between individual terminals, as an intra-terminal movement system within a main terminal building or connecting to airside satellite lounges, or as an airport connector to landside transportation elements such as a nearby transit system, remote parking, or auxillary passenger processing subsystems. Contact: George Izumi, UTD-42, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-4047.

UMTA's Office of Technology Development and Deployment is developing the concept of an Automated Mixed Traffic Vehicle (AMTV). The AMTV is a battery-operated automated passenger-carrying vehicle capable of low speed operation in mixed vehicle-pedestrian zones or at higher speeds on protected rights-of-way. The vehicle operates in a mixed pedestrian environment by detecting pedestrians or other obstructions with optical sensors and adjusting its speed accordingly. For certain classes of service, such as transit feeder, parking lot relay, and airport/activity center transit, the labor costs which account for approximately 50% of conventional bus operating costs can be significantly reduced through the use of an AMTV system which can share an existing at-grade right-of-way with pedestrian traffic. Contact: Robert C. Hoyler, UTD-42, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-9264.

841-3/AIRPORT LAND USE COMPATIBILITY AND NOISE CONTROL

Problem Statement: The pressures for land development in the vicinity of airports may result in incompatible land uses.

Solution Considerations: 1) Restriction of residential uses within danger zones and noise-impacted areas. 2) Airport Zone uses allowed by use permit.

LOCAL PROGRAMS

Airport-Compatible Land Use Zone: KANSAS CITY, MO established by city ordinance an Airport General Planned Development District to ensure the compatibility of land development in the vicinity of the Kansas City International Airport. Contact: Brenton D. Myers, Aviation Department, P.O. Box 20047, Kansas City, MO (816) 243-5207.

Airport Land Use Compatibility: CLEVELAND, OH is conducting a comprehensive study of noise impacts and incompatible land uses in the communities surrounding Cleveland's Hopkins International Airport. A combination of noise alleviation procedures and land use policies should significantly decrease the number of people adversely affected by aircraft noise. Contact: Steve Nagy, Environmental Officer, Cleveland's Hopkins International Airport, 5300 Rocky River Drive, Cleveland, OH 44135, (216) 265-6000.

Airport Zoning Act: HENNEPIN COUNTY, MN will benefit from a State Airport Zoning Act that establishes land use and density standards and height restrictions. Airport and community representatives form a joint airport zoning board that makes recommendations as a part of the comprehensive planning process. Contact: Nigel D. Finney, Metropolitan Airport Commission, P.O. Box 1700, Twin City Airport Station, MN 55111, (612) 726-5791.

Land Use and the Regional Airport System Plan in Northeastern Illinois: THE NORTHEASTERN ILLINOIS PLANNING COMMISSION conducted a study that related land use problems and the difficulties of developing new airports. The study recommends various planning techniques for solving these problems. Contact: John Henry Paige, Senior Planning Officer, Northeastern Illinois Planning Commission, 400 West Madison, Chicago, IL (312) 454-0400.

Noise Abatement and Land Use Compatibility Program: ATLANTA, GA. The Department of Aviation implemented a noise abatement and land compatibility study for areas surrounding the Hartfield Atlanta International Airport. This study defined current noise levels and predicted future levels based on anticipated airport expansion and increased operation. Also explored were methods for facilitating a transition from noise-sensitive areas, such as hospitals and residences, to noise-tolerant areas, such as industrial operations. The first phase of the program, which treats the most seriously-impacted areas, is to be completed in January 1980. Contact: Shirley Harris, Hartsfield Atlanta International Airport, Department of Aviation, Atlanta, GA 30320, (404) 726-9241.

STATE PROGRAMS

Airport Noise Zone Act: MARYLAND STATE airports benefit from State Aviation Administration regulations which establish compatible land uses and height restrictions in the vicinity of State-owned airports. Building permits are issued by the State Aviation Administration as well as by local zoning agencies and a board hears petitions for variances from the zoning regulations. Contact: William Connors, State Aviation Administration, P.O. Box 8766, Baltimore-Washington International Airport, MD 21240, (303) 787-7068.

FEDERAL PROGRAMS

FAA's Associate Administrator for Policy and International Aviation Affairs conducts studies and publishes reports on airport-related subjects such as land banking, the future need for new major airports, and airport terminal area financial data. Contact: Thomas P. Messier, ASP-1, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, (202) 426-3070.

FAA's Associate Administrator for Policy and International Aviation Affairs conducts studies and provides assessments of efforts undertaken by local airport and zoning authorities to bring about compatible land uses around airports. Contact: John E. Wesler, AEE-1, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, (202) 426-8406.

FAA's Office of Airport Planning and Programming provides guidance for compatible land-use planning in the vicinity of airports through Advisory Circular 150/5050-6, Airport Land-use Compatability, which may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 783-3238.

FAA's Office of Airport Planning and Programming administers the Airport Development Aid Program which provides Federal matching funds for the acquisition of land or interests necessary to ensure that land use will be compatible with noise levels caused by the operation of an airport. Contact: Lowell H. Johnson, AAP-500, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, (202) 426-3831.

FAA's Office of Airport Planning and Programming administers a planning grant program which makes available to eligible public agencies Federal matching funds for airport noise control and land-use compatibility planning. Contact: Lowell H. Johnson, AAP-500, FAA, 800 Independence Avenue, S.W., Washington, DC 20591, (202) 426-3831.

842-1/BAGGAGE HANDLING SYSTEM

Problem Statement: Handling individual baggage units several times during a passenger's trip is costly and time consuming. Container unit systems have limited applicability due to multiple destinations.

Solution Considerations: 1) Mechanical systems of handling baggage by bulk units to and from aircraft. 2) The system should not unduly penalize aircraft weight payload performance.

FEDERAL PROGRAMS

UMTA's Office of Automated Guideway Transit Applications is providing funding support for the efforts of the Dallas/Fort Worth Airport Authority to improve the system performance capabilities of their AIRTRANS system. The AIRTRANS system is designed to move baggage, mail, and supplies between airline terminals and other airport facilities through the use of automated utility vehicles. Contact: Steve Barsony, UTD-60, UMTA, 400 7th Street, S.W., Washington, DC 20590, 202/426-2896.

843 Aviation--Airport Design, Location and Operations

843-1/DOWNTOWN HELIPORT DESIGN, LOCATION AND OPERATIONS

Problem Statement: There is a need for heliports in downtowns to transport executives and other passengers to airports located a considerable distance from downtown. The expansion of major corporate headquarters may be related to the accessibility of commercial airports. Location, design, and operation of downtown heliports needs to be researched to guarantee safety, minimize environmental impacts, and minimize public costs.

Solution Considerations: Conduct a research study on heliport design, location, and operations.

843-2/DIFFERENTIAL PRICING FOR AIRPORT ACCESS

Problem Statement: Private aircraft are using many major airports during peak periods causing increased congestion and delays to commercial aircraft.

Solution Considerations: Peak-hour landing fees could be increased for general aviation to discourage small planes from using major airports during periods of heavy congestion.

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843 Aviation--Airport Design, Location, and Operations

843-3/SHORT TAKEOFF AND LANDING (STOL) AIRCRAFT APPLICATION

Problem Statement: Airport congestion is growing to unmanageable levels.

Solution Considerations: One obvious solution is to reduce congestion by creating new airports. This could be done for commuter flights for which the ability to transfer is not important. The technology is available to use small, quiet aircraft to service short-distant air commuters from parking-lot size airports.

URBAN CONSORTIUM TRANSPORTATION TASK FORCE

The Urban Consortium's Transportation Task Force identifies and defines the most important transportation needs of the nation's urban areas. The Task Force provides guidance to the staff of Public Technology, Inc. to ensure that resultant research and development efforts are directly responsive to local government transportation problems. The members of the Transportation Task Force who participated in the fourth needs identification and selection process were:

- George Simpson (Chairperson)
  Assistant Director
  Department of Engineering
  and Development
  City of San Diego
  San Diego, California

- Ron Borowski
  Head, Transportation Planning
  Denver Planning Office
  City of Denver
  Denver, Colorado

- Gerald R. Cichy
  Director of Transportation
  Montgomery County
  Rockville, Maryland

- James E. Clark III
  Assistant Director
  D.C. Department of Transportation
  Washington, DC

- Kent Dewell
  Deputy Director, Public Works
  Department/Transportation
  Division
  City of San Jose
  San Jose, California

- David Gurin
  Deputy Commissioner
  New York City Department of
  Transportation
  New York, New York

- Edward M. Hall (Vice Chairperson)
  Street Transportation
  Administrator
  City of Phoenix
  Phoenix, Arizona

- William K. Hellman
  Chief, Interstate Division
  for Baltimore City
  Baltimore, Maryland

- Robert Hicks
  Administrator
  Planning and Traffic
  Engineering Division
  Department of Transportation
  City of Detroit
  Detroit, Michigan

- Rod Kelly
  Director, Office of
  Transportation
  City of Dallas
  Dallas, Texas

- Frank Kiolbassa
  Director of Public Works
  City of San Antonio
  San Antonio, Texas

- Alan Lubliner
  Center City Circulation
  Project Manager
  Department of City Planning
  City of San Francisco
  San Francisco, California

- Edward A. Mueller
  Executive Director
  Jacksonville Transportation
  Authority
  Jacksonville, Florida

- Jim Parsons
  Chief Transportation Planner
  Office of Policy and Evaluation
  City of Seattle
  Seattle, Washington

- Julie Sgarzi
  Director of Research
  Mayor's Office
  City of Los Angeles
  Los Angeles, California

- Steven Villavaso
  Chief Planner, Transportation
    Policy Department
  Mayor's Office
  City of New Orleans
  New Orleans, Louisiana

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- PTI Project Staff:

  Gary Barrett,
  Director
  Doris Ballenger
  Rosalyn Dortch
  Lisa Jolly
  Lynn Mitwol
  Helene Overly
  Edith Page
  David Perry
  Kathy Perry
  Michael Replogle
  Peggy Schwartz
  Carolene Smith
  Leigh Stokes
  Erwin Young
  Judy Zimmerman

- Project Consultants:

  William B. Hurd
  Debbie Newman, Systan, Inc.

Public Technology, Inc.
1140 Connecticut Avenue, N.W.
Washington, D.C. 20036
202/452-7700

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U.S. Department of Transportation
400 7th Street, S.W.
Washington, D.C. 20590